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SELANDER, R.K.

1954 (PART) - 1955

1- MEXICO

MARCH 8 - JUNE 26, 1954

* CATALOGUE NOS. 1732 - 2493

* JOURNAL

SPECIES ACCOUNTS

BIRDS

* in preceeding volume.

2- JARBIDGE MTS., ELKO CO., NEVADA

JUNE 20 - JUNE 27, 1955

CATALOGUE NOS. † 2900 - 2957

JOURNAL

† CAT. NOS. 2494 - 2899 not accounted for.

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R. K. Selander,
1954

Calocitta formosa

Around San Fernando, 2500-3000 ft., Chis., México

April 25-26 Noted a few pairs of jays around the home of Ruben Diaz and at edges of fields in the valley above his home. They are confined to the drier, more open vegetation such as borders corn or cane fields and the groves of bananas. They do not occur in the mist forest at "El Sauz", nor in the mixed deciduous evergreen (= subdeciduous) forest where this occurs in good, untouched stands. Collected one of a pair near a farm house about 6 mi. NNW San Fernando, 3000 ft. on April 26.

Ruben Diaz and his eldest son claim that both the brown jay (= "peeah") and C. formosa (= urraca cabeza azul) are abundant in the low country NW of here, around Quechula. The boy said he saw a urraca cabeza negra at a place called Chico zapotes (± 36 mi. NW San Fernando) a few months ago (he don't recall the date). On the strength of this info. I have decided to go on horse for 2 days to a place called La Florida, which is 5 hours ride NW of here and in the direction of Chico zapotes. The latter place is, I am told, very near to Quechula. According to Ruben there is a tall, open forest near La Florida and Chico zapotes in which both the jays occur. Ruben said specifically that both jays are abundant in that lowland area. He also said that it is very hot, with much malaria and mosquitoes. Apparently no one beside the Diaz boy has seen the strange jay recently,

Calcitta formosa

Around San Fernando, Chiapas, México

April 26 and I doubt that the boy's word is to be trusted. The people here tell a variety of stories — for example, just yesterday Ruben Diaz told me that the only jay that has been seen in this area is the one taken by Alvarez. Then later he mentioned that Enrique Lopez saw one, but this may be the one collected by Alvarez.

April 28 La Florida, 9 mi. NW San Fernando and return. — Left home of Diaz's with Ruben Diaz and his oldest boy on horse — and mule — back at 7:00 A.M. About 1 mile north the trail branched into 3 trails — one heading north to Santa Rita, one heading W to El Saez (misspelled "El Sana" on tags and in previous notes), and the other heading NW to La Florida and Quechula. We climbed over a dry hill with vegetation similar to that around San Fernando. At a point ± 2 miles along the trail I saw two Psilorhinus mexicanus across the valley flying up the hill over some large trees near a casa. We noted several Calocitta formosa in this general area also.

At a point 5 mi. NW San Fernando we entered a fair stand of ~~rain forest~~ subdeciduous forest below the "cloud forest" type of vegetation found at El Saez and on several of the higher ridges north & west of San Fernando. I took one green jay just after we entered this stand of forest and a very short distance on two Psilorhinus called from

San Fernando to La Florida

April 28 the forest along the trail. I squeaked loudly and aroused their interest. By squeaking and giving various owl calls it is possible to hold these jays, and Caloritta also, in one place while you move in for a shot. Otherwise these jays have a habit of moving swiftly thru the forest — and although they probably are not particularly frightened by a man's presence nearby, they seem constantly to be on the move. They are a bit more wary than Caloritta, also, and I did not see them move towards me at any time as Caloritta will do when excited or aroused by squeaks or owl-call imitations.

The only notes I heard given by Psilorhinus is the familiar "peah" call with an occasional 2 or 3 note mixed in. Caloritta has a note similar to this. I heard no whistling or cawing or "woo" as I have noted for Caloritta. There is no doubt, however, that the two birds have a similar call as described. Flight of Psilorhinus is not unlike Caloritta, although it is heavier & less undulating - possibly swifter & more direct.

Behavior in vegetation differs from Caloritta in a few details. I approached Psilorhinus only in good thick subdeciduous forest where there are many closely-spaced, tall trees and an understory of small trees (15-20 feet) & shrubs + vines. Therefore, it was harder to see the brown jays - but even so

San Fernando to La Florida

April 28 I believe they stay lower in the trees – at about the top of the understory – rather than perching high in the tree in an exposed position as does Calcutta. I do not have enough observations to be certain of this difference however.

After 3 hours of travel (5.4 miles) we came to a clearing just beyond the forest (and at the top of a descent into the Rio Florida Valley). Here the vegetation was of a more dry type & more open. Noted Calcutta in a large guanacaste tree. Also several Campylorhynchus zonatus entering their activities about a palm (not coconut) in the clearing. Other birds noted here were hermit thrush, Saltator atriceps, Cacicus melanicterus (supposed to occur only near Tonalá – fide Blake – but also around Tuxtla fide Alvarez – and I noted nests on road to Ocozocoautla), social flycatcher,

We descended into the Rio Florida Valley and continued on the hill side two hours, arriving at Rio Florida at 1:00 P.M. This place is very dry – similar to the climate at Rancho Ocuilapa near Tonalá. It is drier & hotter than Tuxtla – about the only large tree is Enterolobium, although there are a few mangos around the huts & casas. The river – which had a fair amount of water – runs over a rocky bed in the valley, which is ¼ mile or so wide. Back from the narrow line of guanacastes lining the

Calcutta - Psilorhinus

San Fernando to La Florida

April 28 river bed there is a stand of deciduous shrubby trees - on the slopes there is ~~an slope~~ a low deciduous forest - similar in composition to Tuxtla. Calcutta was very common in the big trees along the river and I collected 6 specimens and saw many other individuals - none of which shows any evidence of mixture with the brown jay. I did not see the brown jay but most of the natives seemed to know it — as the "peach" or "sacme" — and most claimed it was common along the river. I was able to hunt for 2-3 hours along the river, then I skinned specimens collected earlier in the day, as it was very hot. I skinned the birds but did not make bodies for them.

There are several distinctive vegetation types in the area I have been studying:

1) "Tuxtla-type" — a low, deciduous forest type with Mimosa a dominant genus. At this time of year few leaves on the trees. Larger trees are the guanacaste, little or no understory — an occasional short palm. Several of the low trees are the same as at Arriaga. This type occurs around Tuxtla and in the San Fernando Valley up to the town. It also occur extensively in the Río La Florida Valley as, I judge, beyond until level ground is reached in the vicinity of Ocuchula. Ruben Diaz said it would be necessary to travel 2 hours or more(?) towards Ocuchula before getting to the evergreen forest where

San Fernando to La Florida

April 28 the coffee is grown. There is a place called Chico Zapote which is 2 hours or so beyond La Florida - the vegetation is said by Ruben Diaz to be similar to that at La Florida. La Florida is located in hilly country & I saw several ridges of the type we crossed on our way from San Fernando to La Florida beyond (= NW) of La Florida. ~~The~~ Both Ruben Diaz and his son claimed that the brown jay was much more abundant in the lowlands NW of Chico Zapote than in the area we traversed today — and both claimed Caloculta was absent there.

This vegetation type is occupied only by Caloculta and the drier it is the more common is the jay it seems. Large trees are not necessary for the occurrence of this jay but then they may more about a lot and large trees probably are needed for nesting. Neither Psilorhinus nor Xanthoura occur in this vegetation type. Miranda gives a good list of species of trees of this vegetation type. It is fairly uniform in composition wherever it occurs. Apparently C. zanthus does not occur here either as it does not occur in the Tuxtla Valley or at La Florida. I would judge that Caloculta is one of the best "indicators" of this lowland deciduous forest type.

2. Subdeciduous forest

R. K. Selander, 1954

C. zonatus

1

Campylorhynchus zonatus

April 18 6 mi. SE San Cristóbal, 7300 ft., Chis., Mex. At 6:00 A.M. I found three pairs in a ridge stand of giant oaks above camp. They were calling almost constantly as they moved from tree to tree. Each pair seemed localized in a particular area but movements were made in either direction from the center of the foraging area up to 100-150 yds. Each time a pair moved one bird flew just behind the other or slightly above and behind and both birds made a rackety - chaing" noise as they flew. On landing both birds called loudly together "cha-cha-cha-cha charcha" - usually several times before they began foraging. Movements from tree to tree or even from limb to limb, if any distance at all, were made together. When dueting the body was held horizontal but the head seemed thrust forward a bit. Calling usually induced neighboring pairs to calling in a similar fashion. These calls, which seem to ~~have~~ serve to keep a pair in contact & coördinate movements, are extremely loud and harsh and can be heard at a considerable distance. There is little variation in the pattern and the two birds keep together almost perfectly. One two occasions I heard a single bird give another call - perhaps the "song" - cha-cha-cha - this

R. K. Selander, 1954

C. zonatus

6 mi. SE San Cristóbal, Chis., Méx.

April 18 was softer than the other call and was answered by a similar call from one of a pair of neighbor birds.

Feeding in the epiphytes was the common thing observed today. Often as not the wren hangs upside down as it probes in a bunch of vegetation. In my hunting today I found no wrens in the pine forest nor in the mixed pine-oak forest in places where oak forms an understory or where epiphytes are absent or sparse. On several occasions a pair of wrens flew from the top of a tall oak, circled back and landed in the oak again. Another time a pair made a flight of at least 75 yards and probably more, from a large oak to another tree — they apparently are strong fliers. Invariably such flights were made by a pair of birds flying close together as described above.

It was my impression that these wrens were well concealed by their barred & spotted plumage as they fed on the epiphytes and along the limbs of the oaks — certainly they were not conspicuous.

My experiences today are similar to those of Pitelka's at this camp — wrens apparently spaced but some overlap in movements — the chatting calls perhaps serving to inform neighboring pairs of the movements of a pair.

R. K. Selander, 1954

C. zonatus 3

6 mi. SE San Cristóbal, Chis, Mexico

April 18 The group of giant oaks frequented by the wrens was located on a ridge adjacent to a large cleared flat area bordered by a rather thick growth of broad-leafed ~~tree~~ trees & big shrubs. The wrens may have had nests there but I did not investigate thoroughly enough to find any if they were present.

Since I had collected for about 2 weeks at our camp it would be a mistake to assume that the wrens do not occur elsewhere other than on the large epiphyte-covered oaks. He may have collected all the wrens in the area immediately adjacent to camp.

16 mi. SE San Cristóbal, 7200 ft., Chis., Méx.

✓ April 19 At about 6:00 A.M. I shot at a lone bird foraging about 20 feet above ground in a oak on the hill NW of the tent. It apparently was a lone bird and was silently feeding. I hunted across the road (near a sign reading "Belem") where there is a house and a few cattle and where a small stream of water runs along the highway. I hunted up on the ridge where there are a number of bare oaks heavily draped with Spanish moss & epiphytes without hearing a wren. At summit of ridge there are a few small fan palms. On returning to camp at 10:00 P.M. Bonnie called my attention

R. K. Selander, 1954

C. zonaturs

16 mi. SE San Cristóbal, 7200 ft., Chis., Méx.

April 19 to a group of wrens near the tent. She had first heard the wrens at 9:15 and had found them in a tall pine tree – a pair together there and a lone bird in an oak tree adjacent to the pine. The pair would duet and the other would sing rather independently of the pair. They flew towards the road, crossed the road (a flight of ± 100 yds) and into large trees (pines and the yellow-leafed tree). At one time the lone bird perched on the top twig of the pine (40 feet) and sang (she doesn't recall the song). After singing it flew back across the road to the big trees S of the tent. The junipers were used as landing perches in the longer flights and they did remain long in them. Feeding occurred high in the big yellow trees on the smaller branches at bases of clusters of leaves. Later another pair joined the group in trees S of camp – then the party worked rapidly down the canyon west of camp. At this point I assumed – in a few minutes ~~they~~ 4 birds appeared in the trees just W of the tent. I shot one bird ~~which~~ and then collected a pair which were perched together.

The warning note is a chit-chav given rapidly. This heard after I shot the first bird. The birds taken today were not breeding – no brood patch on female – bursts testes are fairly large.

R. K. Selander,
1954

C. zonatus

16 mi. SE San Cristóbal, 7200 ft., Chis., Méx.

April 19 The iris seems more intense in color than that of chiapensis or humilis or nigricandatus. The legs and feet are a horny yellow or a yellow-olive. Bonnie describes a posture with tail cocked up at 45° angle — flipped up rather than held — this assumed when bird is on a horizontal perch when feeding. (the lone bird seen in this posture).

Observations today show that the birds are not confined to the large oaks with dense epiphytes. As yet it is difficult to see why they are so spotty in distribution. In any event they are uncommon in this area. Apparently breeding has not yet begun. [Probably forage almost entirely in oaks, however]

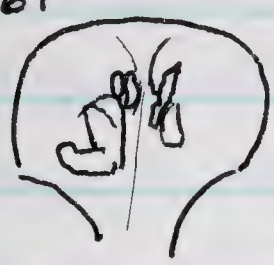
✓ April 20 At about 7:00 A.M. I collected a bird which was foraging in a juniper near the tent — presumably one of the birds of the group seen yesterday near camp. Late in the morning I hunted SW from camp without seeing wrens. Took one ♀ Caprimulgus vociferus in a pine-oak area. In the afternoon I hunted east from camp without finding wrens and it now appears that they are very rare in the area surrounding camp. This area is lower than the forests closer to San Cristóbal and the junipers probably indicate greater aridity.

R. K. Selander,
1954

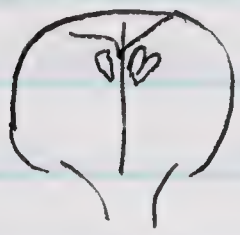
S. zonatus

Skulls of specimens collected April 19, 21

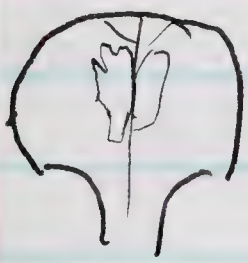
2061



2062



2074



K. Selander, 1954

C. zonatus

9 mi. SE San Cristóbal, 7300 ft., Chis., México

April 21 In the afternoon we found a good area for wrens (see journal), collected 2 specimens. As it began to rain hard in the afternoon we returned to San Cristóbal and made plans to return to this same spot tomorrow.

C. zonatus

9 mi. SE San Cristóbal, Chis., Mexico.

✓ April 22 Nest in tall pine 38 feet up! Two birds taken here yesterday. But Bonnie saw three birds together near nest. Nest looks as large as chiapensis nest. (but this may not be wrens.

another pair —

good → [ve-ded - da-da- da - da-dit — duet given 5-10 times

cha-chet chi-det

Feeding high up in yellow-leafed tree along mossy branches and in epiphytes - periodically duetting. Wrens hop along branches, probe at pine cones, bits of moss, epiphytes especially on pines, oaks, etc.

---

4 birds foraging loosely together. Two flew to other trees separately without sound while two remained feeding together high in a yellow-leafed tree.

---

5 duetting roughly together

↑ chik — preceded — birds answering one another.
Chat-cha, chut-cha — given by lone bird softly

R. K. Selander,
1954

C. zonatus

9 mi. SE San Cristóbal, 7300 ft., Chis., México

✓ April 22 8 birds around one nest, called together by one bird chaing Pi-co-wup, pico-wup - given by one near nest. Very nasals soft. This group includes the 5 mentioned just above. When one bird called as above all 7 others gathered about the nest, several entered the nest and then came out again.

We collected six wrens in the immediate vicinity of the nest. They were coming to the nest area singly or sometimes in pairs. Foraging takes place most often high in the trees but twice we saw birds fly to the ground or to logs on the ground. Probably most foraging is done 40-50 feet or more above ground.

The slope on which the nest is located has a dense growth of very tall pines mixed with giant oaks and a yellow-leafed tree which is generally shorter than the oaks. There is an understory of small oaks and other trees, including young pines. There has been some logging on the slopes. Across the road there is a similar slope but the understory is lacking & the wrens seem to not frequent the area.

R.K. Selander,
1954

C. zonatus

9 mi. SE San Cristóbal, 7300 ft., Chis., México

April 22 The epiphytes are thick on the trees here and seem to be necessary to the wrens as we found no wrens in areas where they are absent. The situation here as far as vegetation is concerned is similar to the ridge above camp at 6 mi. SE San Cristóbal. Pines are used for foraging but the oaks & other trees are much more important in this regard.

The common note is a "chuka" - sounding a bit similar to the note of a robin. This note was heard frequently late in the afternoon, especially when single birds were encountered. The involved rasping call is used by pairs and also by the large family groups. Once when the group gathered about the nest (roosting nest - see beyond) all began this call but they were not in perfect unison.

Near the roosting nest we located another, larger nest in the top of a small pine. This tree was about the same distance from the ground as the first (±20 feet) and in a pine about 12 feet away from the first tree. Because it was partly hidden by pine needles we failed to see it until we had collected 7 of the birds associated with the first nest. On returning to the area in late afternoon I saw a lone bird enter this nest and emerge with a fecal pellet which it dropped as it flew from the nest. At the same time I heard soft "peeps" coming from the nest. A short time later Bonnie collected a wren (#2090, ♂)

R. K. Selander,
1954

C. Zonatus

9 mi. SE San Cristóbal, 7300 ft., Chis., México

April 22 which may have been the same individual I saw earlier and have the second nest. We collected the nest by pulling the pine over with a rope. Inside were 2 eggs & 3 nestlings, probably a week or more of age. They gave a few soft "prep" notes when handled and seemed definitely repelled by light as they attempted to get the head under cover of some sort whenever we set them out in the open.

Best guess is that ♂ 2090 and ♀ 2088 were parents of these young. We may have collected birds other than those associated with the nest in the series of eight birds (# 2084 - 2091) but many were collected at the nest tree and doubtless belonged to this one group.

Apparently the first nest we found (located in a broad-leafed tree — see plant collection) served as a roosting place for many of the 8 birds of the area while the other was used by one pair to raise their young.

Another nest a few hundred yards up (east) the canyon: Collected 6 birds (Nos. 2092 - 2097) in immediate vicinity of the nest. Took several photos (B. & W., Roll # 20) of the nest area. Walked up the hill through a rich forest of giant pines & oaks heavily covered with large epiphytes. In one spot I saw at least 16 were together (but possibly in two sub-groups) calling excitedly. Collected two from this group.

C. zonatus

9 mi. SE San Cristóbal, 7300 ft., Chis., México

✓ April 22 Perhaps the birds pair up and remain spatially segregated a good part of the time, only coming together in large flocks when something disturbing appears. Some of the birds collected today are not breeding and on basis of skull ossification, there are several age-groups represented.

Collected plants Nos 100–109 in vicinity of nests. No. 105 is the tree in which the first-found nest was placed.

✓ Nest containing the three nestlings and two eggs (one of which was infertile; the other held an embryo) was about the size of a large chiapensis nest — about 14-15" long and ±12" deep. A tunnel led to the interior cavity where the young were located. This cavity was lined with, moss, lichens, and vegetable fibers of other types. The outer portion of the nest was composed of twigs of a hard, shining type, pieces of dry bark, jay feathers, hawk, feathers — a mixture of many types of materials. I noted a piece of tin foil in the center cavity. — The other nest was smaller than that of chiapensis.

✓ Another nest seen in an oak up the canyon was smaller than the large nest described above. Outer twigs may be $\frac{1}{4}$" in diameter and 6" long or so.

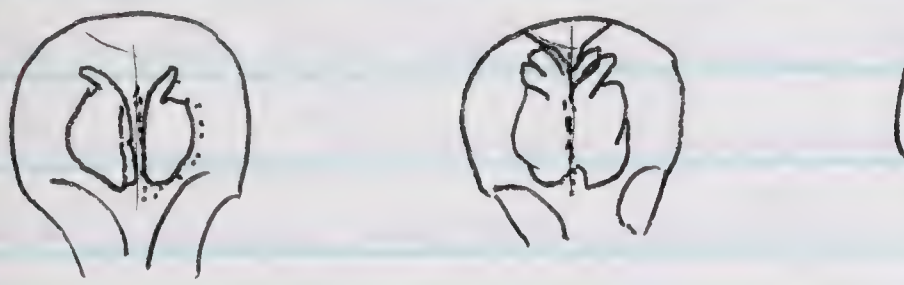
R. K. Selander, 1954

C. zonatus

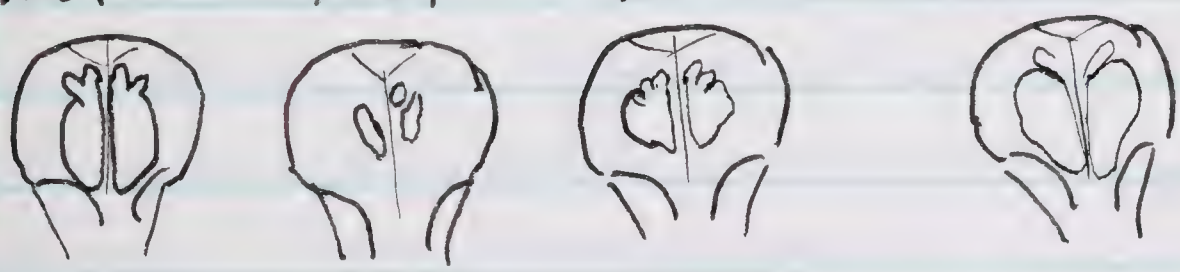
Condition of skulls of C. zonatus - April 22

April 22

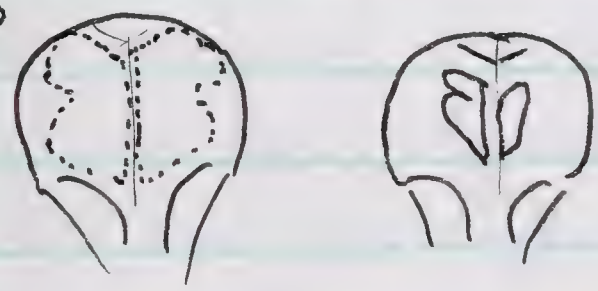
2091 ✓ 2084 ✓ 2085



2089 ✓ 2087 ✓ 2092 2097



2093, 2096, ✓ 2094
✓ 2100



✓ 3 juveniles:

Legs and feet: Pale greenish flesh color, not the yellow of adults.

Base of bill: light yellow

Lining of mouth: deep yellow-orange

Iris: steel blue-gray.

✓ Noted: 1) Most specimens fairly fat, especially in inter clavicular area.

2) Skin tougher & more tightly joined to body than in humilis or sierrae.

R. K. Selander,
1954

C. zonatus

.5 mi. N San Fernando, 2000 ft., Chiapas, México

✓ April 25 Hunting up the canyon from Ruben Diaz's house. On a gulley adjacent to a small field of sugar cane and a stand of banana trees I found a group of 3-4 wrens. The vegetation consisted of a dense stand of deciduous and evergreen trees with a thick understory of bushes & vining plants, including a thin sisal type plant. Some reed-like plants occurred beneath the trees. I first noted three wrens at the edge of this stand while I was collecting a Saltator atriceps. Several wrens perched in the trees and on vines but without calling. Finally one made a short nasal call unlike any I have heard this species give previously. I collected one bird — a female with an egg in the oviduct. The legs and feet of this bird are buffy or pale orange, lacking the yellow-olive of specimens taken at Las Casas. This color is very near the same as the more anterior portion of the buffy portion of the under parts. If consistent it is certainly a good racial difference. Birds here are notably larger than those we saw and collected in the highlands around Las Casas. I noted this in the field where these birds seem much larger. This was shown also by the weight of the female I collected today, which weighed 1 more than the males at Las Casas. The bird is darker in color also and probably is fairly close to ~~estructus~~ of Tabasco. — Apparently this wren

.5 mi. N San Fernando, 2000 ft., Chis., México

April 25 is fairly common in the pockets of low forest remaining in the valley. These pockets are, I believe, composed of a mixture of deciduous elements from the lowlands around Tuxtla and elements from the subdeciduous forests such as occur at Santa Rita. They are very small in extent and probably each pocket supports only a single group of wrens. The stand where I found the 3-4 wrens today is no more than ½ city block in area. — Ruben Diaz recognized the wren when I showed it to him and said they are fairly common here. Probably San Fernando is as low as the wren occurs in this valley since good low deciduous forest begins just below (south of) the town.

Birds associated with the wrens include: Saltator atriceps, Saltator coerulescens, Thraupis abbas.

April 26 6 mi. NNW San Fernando, 3000 ft., Chiapas, México

Specimens today show some variation in color of legs & feet but decidedly on the average they are buffier than those taken around Las Casas. There may be some overlap in this character between the two populations, but it is still a good racial difference. Birds taken today had a line of orange-yellow fat in the inter-clavicular region. I took one specimen from a group of 4? birds below the humid mist forest in a dense stand of mixed evergreen & deciduous vegetation — some very tall trees — much like the spot where I saw wrens yesterday. On returning from the mist forest in the afternoon I

R. K. Selander, 1954

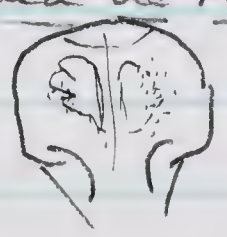
C. zonatus

6 mi. NNW San Fernando, 3000 ft., Chis., México

April 26 collected 5 wrens from a group of at least 6 and possibly seven in a similar situation. These birds occurred at nearly all levels from high in the tall trees to near the ground in low trees & brush – but mostly they frequented medium sized trees – about 15-20 feet above the ground. I noticed pairs chasing through the vegetation in a similar fashion to those at Las Casas, giving the same clattering calls as they flew. I saw no nests.

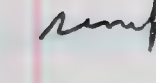
These wrens do not occur in the moist forest but are limited to the thicker stands of vegetation along roads and in gullies — a mixed evergreen-deciduous type with epiphytes on the large trees and an extremely dense understory of bushes, reed-like vines and vining bushes.

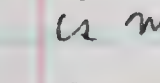
May 11 Barranca de Metlac, 3250 feet., Veracruz

2219 

Near our tent in the barranca there is a steep slope covered with dense shrubby vegetation, vines, and several tall, epiphyte-covered trees. The head wrens calling from the trees on this slope as we pitched camp.

Calls:

1- a common call - perhaps the most frequently given is a simple  – cha-cha-chet-chaudit – all notes on same pitch. This is given usually by a single bird and is most frequent call given by a lone bird.

A variation of this call is –  – the first note

C. zonatus

Barranca de Metlac, Veracruz

✓ May 11 being absent. Once a lone bird gone this vocalizing while perched high in a tree near tent in a fully exposed position (#7253 - a ♀).

This vocalization and the first are also given by a pair of birds calling in unison.

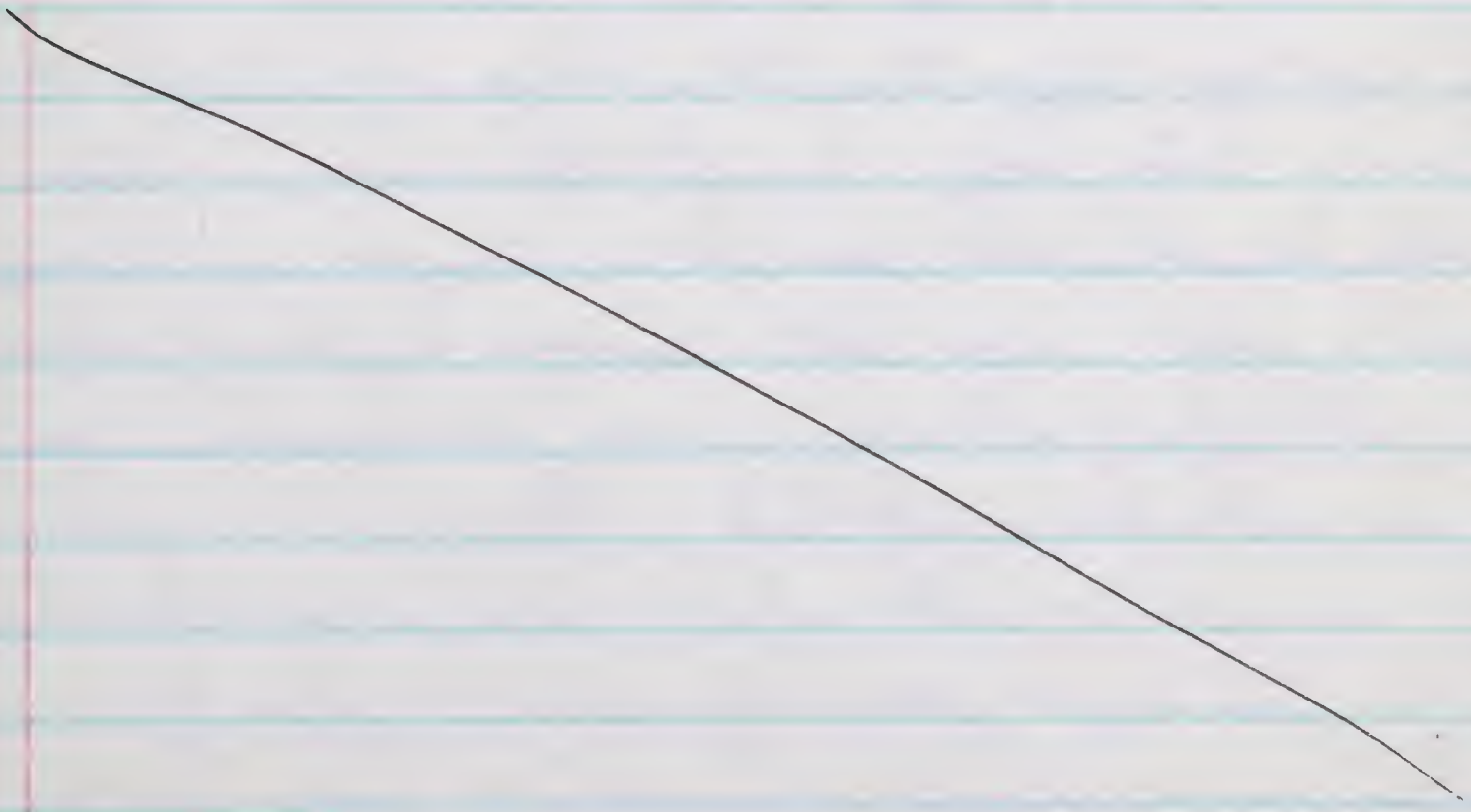
2 - Note = a single, simple ˀchut or ˀchet — very frequently heard - it has the quality of the throaty rasping calls.

3 - ˀCha - chet — loud, rasping - possibly a morning call. Very frequent.

4 - ♀ [illegible] - pair dueting - repeat this over & over.

5 - [illegible], etc - pair dueting - repeated.

6. [illegible] - cha - cha - chut - given repeatedly - sounds excited.



2 mi. N Fortín, 3200 ft., Veracruz

✓ May 12 In a coffee & banana plantation along the Huatusco ~~Fortín~~ Córdoba highway. A few large trees with epiphytes and ~~the~~ numerous orange trees in addition to fields of coffee. The few remaining original trees are located in small, shallow gullies or in small patches - but even there there are coffee bushes beneath, forming an understory. Wrens were not common. I found a pair in one of the thicker patches of trees but I hunted in several other areas, seemingly as well suited for wrens without finding additional birds. Saltator atriceps, Centurus aurifrons, Xanthocara yucas, Glaucidium brasilianum and Psilorhinus morios were other species noted and/or collected.

We drove north to Coscomatepec looking for a good area of forest but without luck. The entire area from Córdoba to Coscomatepec is in coffee, sugar cane, or bananas. Even the slopes to the west of the highway are cultivated with coffee so that it would be impossible to find a good stand of original vegetation anywhere in the area. Where there are steep sided gullys or canyons in this region, some of the original vegetation remains and we noted the ferns in one gully — but these situations are limited in number & where there is a canyon, usually only a narrow band of vegetation is left standing and even this may be mixed with coffee bushes or trees. Even so, there are wrens

2 mi. N Fortín, 3300 ft., Veracruz

✓ May 12 in the patches of trees and even in the coffee groves — but in the latter situation only when there are other trees present also. Orange trees seem to be frequented quite a bit by these birds and one native woman told me that the nests of this wren sometimes are placed in orange trees.

C. zonatus

4 mi. W Fortin, 3400 ft..

✓ May 13 Similar to coffee plantation visited yesterday but with more ~~o~~ native trees. On a slope there is a fair stand of semi-virgin forest. I found only 2 pairs of wrens - both of these in clumps of orange trees near a house. I hunted along the edge of the forest on the slope without seeing wrens. This is strange as habitat of large, epiphyte covered trees seemed suited for wrens. It is apparent that the distribution of this wren is spotty with "pockets" of wrens here & there separated by large stretches of unoccupied territory.

7 Km. NW Fortín, 3300 ft., Veracruz

√, May 13 At a point where the old trail takes off from the highway we stopped after hearing wrens call. The old road is lined on either side by very tall trees and on one side there is a shallow gulley with orange trees (tall ones) and coffee, in addition to some native trees of good size. There were a large number of wrens present — all in a group at one time — Lamb said 20 together but I saw no more than 7 in one group. I collected 5 specimens. There are several natives living along the old trail and just across the highway there is a large native house with grove of coffee in back of this — and a good dense stand of huge native trees surrounding the house & lining the highway.

√ May 14 Took 6 specimens in precisely the same spot as yesterday.

√ May 15 Took 6 more specimens in precisely same spot as yesterday & day before.

√ May 16 Took 2 more specimens & saw one more in same spot as yesterday. — a grand total of 20 birds within an area of a circle with a diameter of 100 yds.

Yesterday (May 15) I hunted in the coffee grove and around a cleared field across the road from the spot where the concentration of wrens occurred and found no other wrens although the habitat seemed nearly as good as in the other spot. This would suggest

C. zonatus

7 Km. NW Fortín, 3300 ft.; Veracruz

✓ May 15/16 That these wrens are at least semi-colonial in habits. The same situation occurs around camp, where there was a concentration of these wrens around the slope above the tent but no other birds in seemingly suitable habitat just down the canyon. There is another group of wrens around the canyon near the house of Rabago, however.

May 16 - No. 2261 ♂ was one of a pair seen foraging together - while ♀ 2260 was a lone bird. When wounded the latter bird ran, calling a loud simple caw. It attempted to climb the trunk of a small tree + worked up the base of a bush in an effort to escape.

Almost invariably we found wrens in the higher portions of the taller trees - occasionally birds were seen in low orange trees but I doubt that they foraged there to any great extent. Flights of 50 yds. are common and usually these are made from near the top of one tall tree to a similar position in another tall tree.

Sometimes 3 birds flew together with much chattering and an occasional "fight" in mid-air. This was noted also when a pair moved at which time the two birds would momentarily come together in mid-air.

Barranca de Metlac, 3250ft., Veracruz

May 15 Today and yesterday there have been three wrens on the slope above the tent and in the trees around camp. Sometimes all three fly together, calling excitedly, and other times two of the three are together foraging or flying about while the third is alone, usually perched high in a tree calling ♂ ♀ (cha-chit-che-dit). I watched the lone bird perch on the top most twig of a tall tree - in a fully exposed position since the branch had no leaves - with bill pointed slightly up & tail down, I collected this bird as it called from this position high in the tree near the tent. It was a ♀, no. 2253, and appears to be a first-year bird with inactive gonad. This single bird called more frequently than did either of the birds of the pair with which it was associated. Five wrens in addition to no. 2253 have been collected in the same place on the slope above camp and in the trees around the tent of these, one ♀ (no. 2219) probably was in non-breeding condition while another ♀ (no. 2229) and the bird collected today (no. 2253) had inactive ovary and lacked a brood-patch. The other three birds from this area are ♂♂ and show about equal testis enlargement. Apparently the testis never gets longer than 5-6,7 millimeters. In all, then, there were 8 birds frequenting the slope above the tent.

C. zonatus

Barranca de Metlac

May 15 Random observations:

1. Breeding season just beginning. Mr. Rabago mentioned that it had rained one night the week before we arrived at Metlac and it has rained every day we have been here so breeding is probably timed with onset of rainy season.

2. ♀♀ with brood patch are fatter than other birds - Most have a "V" of fat in the interclavicular region ♂ ♀ = appx. chain. of fat "V" - also some other fat on feather tracts. Other birds have less fat and some have none.

3. This wren is much harder to skin than C. chiapensis, C. humilis, nigricaudatus, or prosus. The skin is more firmly attached to the body, especially on the rumps and legs.

4. The oil gland coil is yellowish while it is white in the above mentioned species.

5. Tails are frayed and an unusual number of birds have molting tail feathers - probably get tough work-out because of feeding habits ⇒ clinging to epiphytes and on branches.

6. Tail is often cocked up at an angle.

7. Watched several times while birds picked insect larvae(?) from epiphytes & pounded them against a branch - apparently to kill them or break them up.

Barranca de Metlac, 3250ft., Veracruz

✓ May 16 Took several black & white photos of area around camp, one showing slope where we collected wrens. Also took several shots at the point 7 Km. from Fortín where we found wrens so common & collected a large series. Only two wrens seen on slope above tent today. At one time one bird called repeatedly in the trees on the slope and around the tent. After calling and moving from tree to tree for 10-15 minutes it was joined by the other bird and they flew about, calling excitedly. When this pair moves they often alight on separate branches of the same tree & begin foraging - then they may gradually work together, call once or twice and move together to another tree when the same performance is repeated. This pair moves from the trees just below camp up the canyon 100 yds or so and it may go beyond. Foraging seems generally confined to higher portion of the larger trees but I saw them foraging in tall bushes and smaller trees also.

C. zonatus

12 mi. SSW Boca del Río, 100 ft., Veracruz, México

✓ May 18 Took 5 & Lamb took one. This wren is about equally common with C. rufinucha. I saw one bird fly from a dense thicket of trees (not thorny) into a large (30 feet or less) tree at edge of clearing and then up into a palm (coconut-like) 50 feet above the ground carrying nesting material. The thicket was thicker, richer, greener & less thorny than most in the area & more so than usual habitat situation of C. rufinucha After seeing the one bird make 4-5 trips, always stopping in the large tree before flying into the palm I saw another bird carry material. Both birds were silent the whole time. Actually 4 birds were present at the nest. I discovered this when I shot one - a ♀ with a full brood-patch. No epiphytes on any of the vegetation in this area. The flight from thicket to nest palm was direct with a glide just before landing.

While sitting at the edge of a cleared field where a few palms were left standing I heard a pair of C. zonatus chatting along the edge of a dense thicket of trees & (non-thorny bushes for most part). I had just collected a pair of C. rufinucha from a small palm at edge of same field. The two wrens flew 50-75 yds. into a group of palms near the center of the field where I collected one bird. The situation was very open with only a single tree beneath the 5-6 palms grouped together in the field. When wounded, another bird hid in a palm & could not be flushed out by throwing sticks or kicking the palm.

12 mi. SSW Boca del Río, 100 ft., Veracruz

✓ May 18 while walking through a thicket of trees where I expected to find C. rufinucha I found a pair of C. zonatus. They were calling loudly in bush-tree about 10 feet above the ground. The presence of birds in this rather low thicket suggests there is some degree of ecological overlap between the two cactus wrens in this area. The places frequented by zonatus here are drier than any in which I have seen the species and there are no epiphytes — a seemingly necessary thing in all other places I have seen the wren — with possible exception of the area near San Fernando, Chiapas. Charles Lamb said there were one in the tall underbrush below the evergreen forest trees in the Sierra Cantupec, south of Lake Catemaco. Yesterday I heard wrens calling from the tall green trees lining the Río Atoyac — but they are not around camp. Wrens of this species are heavier than those from the Barranca Medloc & appear to be larger tailed also & generally larger. It is strange to find them in this dry habitat, especially when around Jalapa they seemed to prefer the tallest, richest, thickest vegetation, where various types of epiphytes are abundant on the trees.
Possibly there is an ecological race here in the arid lowlands with habitat requirements different from the population in the coffee belt at higher elevation. If so this explanation for absence of C. rufinucha in southern Veracruz may be competition with this wren — although I suspect there is some sort of vegetational change involved also.

12 mi. SSW Boca del Río, Veracruz

✓ May 19 Located a pair in large clump of bushes & trees, including one large guanacaste-type tree, where I found a pair of rufimucha yesterday. Heard several other pairs calling in thickets at edge of field. The habitat of this species and rufimucha must be very similar in this areas as the vegetation is fairly uniform = Open fields of low scrubby acacia(?) bushes mixed with two types of palms, a tall coconut-type and a shorter, rough-trunked type. Alternating with these fields are thick patches of trees & broad-leafed bushes of good size — a guanacaste type is very common tree. The two wrens are about equally common here but zonatus is more frequently seen because it spends much time in the higher trees — a thing which rufimucha does not do. Most of my specimens of zonatus have been taken from the tops of the taller trees but I have seen these wrens in low trees & bushes in situations where I expected to find ~~humilis~~ rufimucha.

Along the Río Alvarado there is a line of guanacaste and other trees in which I have not yet hunted. There are no wrens around camp but seemingly there is some fair habitat for one or the other of the wrens.

C. rufinucha

12 mi. SSW Boca del Rio, 100 ft., Veracruz

May 18-19 Calls:

① ˋwut do it – throatier than humilis and also a bit slower.

② ˋwa-ˋheet ˋwa-ˋheet

③ chu-a-queet – given by a bird carrying nesting material – at same time posturing in same manner as humilis.

④ chu-do-it – variation of #1.

⑤ arr-ow ˋpip, arr-ow ˋpip – given by a ♂ with throat puffing out.

④ carr-carr-carr
che-aw
chut-chit
} notes – nasal in quality.

In general the calls of this species are very similar to those of humilis and are immediately recognizable. They are a bit lower in pitch & throatier – also a bit slower than I remember those of humilis. There is more difference between humilis and nigricandatus than between humilis and rufinucha. General behavior seems identical with humilis – I have the impression that this form is warier than humilis or nigricandatus, especially the former, but it may be only that the vegetation is thicker here & harder to hunt.

C. zonatus x rufinucha

12 mi. SSW Boca del Río, 100 ft., Veracruz

Skulls May 18

rufinucha

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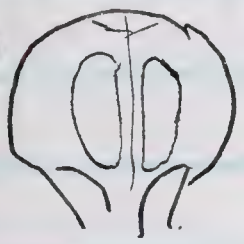

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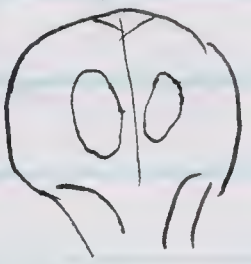

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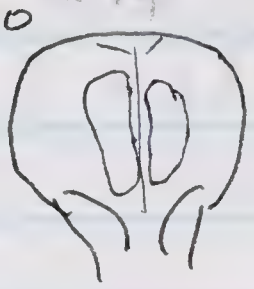

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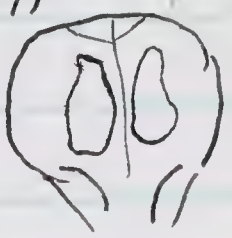
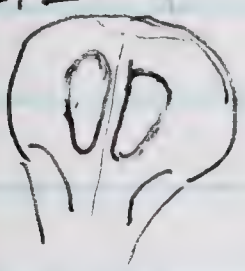


2298 = 5.9.0 = ad.

2286 = 14

2272 = 14



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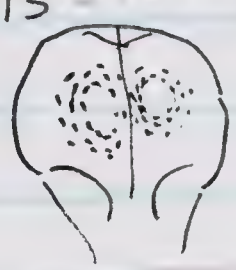

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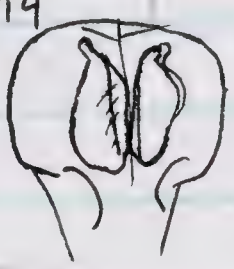
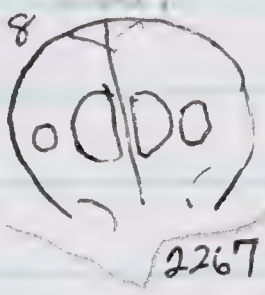


2277

Recorded

zonatus

2278



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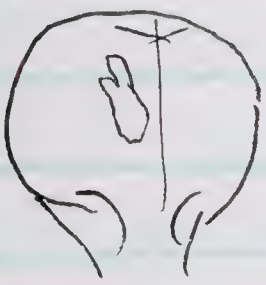

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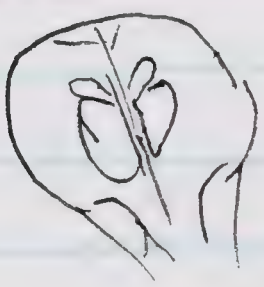

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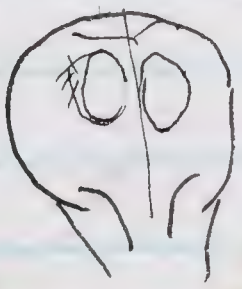

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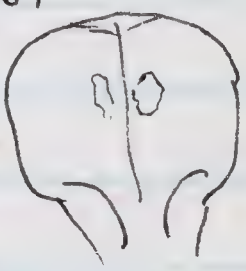

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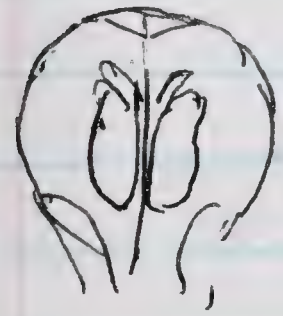
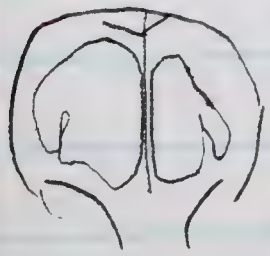


2280

2281

May 21 = C. rufinucha

2285 = 14

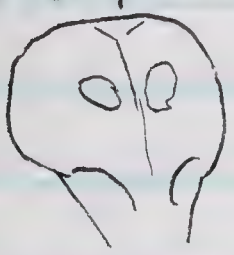


Recorded

(Recorded)

Skulls of Mrens - May 22, 1954

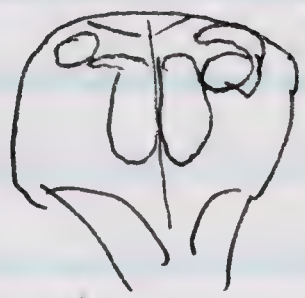
2295 ♂



C. rufinucha

2300

2301



C. ignitus

C. rufinucha x zonatus

12 mi. SSW Boca del Rio, 100 ft., Veracruz

May 18-20 Pair 2285 - 2286 - ♀ had egg yolk in oviduct yet ♂♂ testes are rather small - these sexed for examination.

on May 18 or 19 ♂ watched a pair sing together, ♂ giving a two note call - wa-cheet, etc. - very sharp & staccato while ♀ gave a soft chu-do-it. This is common thing - and is given by pairs of humilis also. Two different calls given at same time. Perhaps, then, the common call of the ♂ is the two-note one, but I have seen ♂♂ giving the triplet note also.

When disturbed ♂ watched or ♀ give a continuous raspy, rather high pitched raw, raw, raw.

I have seen several nests here. All were placed in the acacia which resembles the 13 HA of Tonalá but which has the spines winding about the stem. Usually nests are placed below 8 feet - most about 4-5 feet above the ground. All were small - about same size as humilis although rufinucha is a longer bird. The construction is simple a bunch of dry grass & fine stems lined inside with matted vegetation fiber. There is a short tunnel at the opening but this is not conspicuous and the nests appear to be almost perfectly oval. The nest of the social flycatcher is similar in size (a bit larger usually) and placement but the latter is sloppier in construction and invariably has a bunch of long straws hanging under the entrance.

I have seen no evidence that rufinucha builds more than a single nest and all birds encountered were in

2 mi. N Tierra Blanca

May 20 pairs, widely spaced in the vegetation stand — apparently a simple pair set-up as in humilis.

May 21 At a point 2 mi. N Tierra Blanca I hunted in a dense stand of trees & bushes similar to that near camp but greener & with a few cereus type cacti. The fields surrounding were grassier than those near camp and there was less spiny vegetation. Many of the trees (see photo taken from road - roll 26) are same genera as those around Tonalá, Chis., where we found humilis but the vegetation is more mesic here than near Tonalá. I found one pair of rufimucha. I first noted the pair in a small tree and in a fairly large cereus-type cactus in the midst of the stand of trees & bushes. After watching them for several minutes the ♀ flew to a thin tree nearby where was located in a crotch the base of a nest. I collected both birds. The ♀ had 3 O.L. & a yolk in her oviduct yet the testes of the male were rather small. There were no other rufimucha present & I shot both birds together after watching them behave as a pair-fashion for several moments. The ♂ is a 1st year bird, which may account for the small size of the testes — but there should be sperm in the testes — saved for examination. I could find no nest in the general area, other than what appeared to be the base of a nest in the thin deciduous tree mentioned before.

I hunted for about an hour in situations similar

C. rufinucha x zonatus

2 mi. N Tierra Blanca

May 21 to that where I found the pair of rufinucha but found no evidence of other wrens. It must be rare in this area but as yet I can see no reason for its being any less common than it is 1/2 mi. SSW Boca del Río, except for fact that vegetation is a bit less fine & more open (even in the thickets). Suitable thickets of small trees & shrubs are not common in this region.

C. rufinucha × zonatus

May 71

More random notes:

① rufinucha is not many × if approached slowly will feed a few feet from the observer, while zonatus cannot be approached closely, flying off excitedly whenever the observer is detected. Rufinucha makes short flights to thick brush when disturbed while zonatus may move in a long flight 50-100 yds to a tall tree a palm.

② Rufinucha is most commonly seen 5-10 feet above ground a often lower than 5 feet. ♂♂ sings from an exposed position and while not always from highest part of tree it is invariably in an open place, either on a deciduous limb of a dead limb. The tail is not fanned out usually unless ♀ is at side of ♂♂ & they are calling together. I have not heard ♂♂ & ♀ duet the same call—always I call given at same time - that of ♀ being soft & harder to pick out of the combined call.

③ Rufinucha occasionally descends to ground but even when foraging the ground it perches on a twig, sees an insect on ground and then descends to pick it up rather than hunt on the ground. I have never seen zonatus below 6 feet & usually they are foraging high (+15 feet - up to 35-40) in the taller trees),

C. rufinucha

12. mi. SSW Boca del Río

May 22 Roll 26 Took one shot nest tree - one general habitat, took shot here & found other rufinucha.

Pair 2295-6 had nest in a small spiny acacia type tree ± 5 feet high - nest was in crotch ± 4 feet up (home photo - roll 26). Nest was ± 10 × 7" & was composed of grass & fine twigs lined with a brown plant fiber + a few feather (no wren) — contained 4 nestlings (collected in alcohol) which were a few days old. I watched ♀ gather food — flying after an insect & catching it on the wing ± 3 feet above the ground! On another occasion she descended onto the ground & caught an insect - this is only instance of rufinucha foraging on ground. She went to the ground only once and then walked way up into the bush to a height of ± 5 feet or so which seems to be the usual foraging level (between 5 - 10 feet is average foraging level. I believe). Pair was very quite and gave only a single call as I watched for several minutes. The brood-patch of the ♀ was a bit drier than that of other ♀♀ I have recently examined and I believe this pair is somewhat advanced in the nesting cycle compared with other pairs in the area. I examined an empty nest similar to the one containing young ~~found by~~ about 30-40 yds away but it may have belonged to another pair of wrens.

Roll 26 pictures 5,6 nest in here where I saw 3 ~~young~~ nestlings but I saw nest high up in tree.

R. K. Selander,
1954

C. chiapensis, nigricandatus, humilis 1.

Campylorhynchus chiapensis

3/4 mi. SSW Tonalá, Chiapas, México. — as we drove
March 19 off the road to camp I saw two birds in the trees and bushes just across the road from camp. One flew into a large mango located just at the spot where we placed our tents. I take it flew across the road. Several times I heard these birds giving their usual call and once two birds dueted for a period of 5 seconds or more. After setting up camp I watched these birds foraging. One bird worked on the ground at the base of the roots of an up-turned tree - searching for food between the root branches, crawling in dark crevices and over the root branches. The other was foraging about 15 feet above ground in a small tree, working along the branches. Once I saw this bird peck several times at a clump on one of the branches. For the most part these birds foraged within 3 feet of the ground. A pair of orioles apparently are preparing to nest in the same tree in which the wrens are foraging. There is no conflict between the species. Once the wrens chased a Turdus grayi through the bushes and through a clearing - all birds calling excitedly. The wrens seem not to be disturbed by our presence here. Lamb said that he heard this wrens in the mango tree above our tents late in the afternoon. We did not hear or see wrens on our trip to Puerta Arista so apparently they are silent in

C. chiapensis

3/4 mi. SSW Tonalá, 100 ft., Chiapas, Mexico

March 19 the late afternoon & early evening. I questioned a Mexican who came to our camp tonight. He said that the chamemaca is abundant here but that the small chamemacas are "rare". Lomeli's boy - Sedelio - collected one C. chiapensis this afternoon somewhere SSW of camp. He reported seeing another. The same Mexican who visited camp tonight said that the large cactus wren lays its eggs in June — but this undoubtedly is incorrect because Brodkorb's data indicated breeding before June.

March 20 Heard first calls at 6:12 A.M. this morning. A few minutes later I saw two fly up from the ground near camp and across the road into the vegetation opposite camp.

1 mile (=NW) along road to Arriaga - 2 groups of wrens (chiapensis) located. One centering around a large mango near a house with on nest in a large bush-tree (not an acacia). Saw two and three birds singing together in the top of the mango. The birds were perched close together and all fanned out the tail while singing. No eggs in the nest but it was in good repair. Watched one bird foraging in a small pile of branches which a Mexican had cut.

K. Selander, 1954

C. chiapensis

March 20 2.8 mi. (=NW) along road To Arriaga – Stopped in a dry spot and hunted along a dry ditch. Took a Thryothorus pleurostictus but heard no other wrens. Saw no nests although there was ample acacia near the ditch.

4.8 mi (=NW) along road to Arriaga. – Hunted about 45 minutes along a river at a spot where a new bridge is in construction. Many birds in the trees and brush along the river but no wrens or nests noted. There is a small amount of water here in the stream so apparently it is never dry. Noted laughing falcon, becard, spotted sandpiper, Calocitta formosa, large kingfisher, yellow-bellied trogon, grackles. I expected to find chiapensis here a bit drier here than at our camp in Tonalá.

5.4 mi. (=NW) along road to Arriaga – Walked about 200 yards west from the road. In low bushes along road I noted one Thryothorus pleurostictus singing from a low branch. Song consists of several sharp notes and a trill. In a small tree just across the dirt road I saw a C. humilis foraging about 10 feet above the ground. Later we collected 4 C. humilis in a dense stand of acacia and vines a short distance from the road. We watched wrens foraging in the yard of a Mexican farm. Three C. chiapensis were working over the roots of upturned trees and on the trunk bases of several

C. chiapensis

5.4 mi. along road (=NW) from Tonalá to Arriaga

March 20 trees which had rather recently been chopped down. Mexicans were in the process of clearing a field and had chopped down most of the larger trees. After a time the chiapensis flew into a large tree near the house. At the same time as we were watching chiapensis, two humilis were foraging in the upper and middle branches of one large and several small trees just above the other species. The call note of humilis is a very nasal ~~follow~~-type "Chee - chee - chee." I followed on bird and heard this call repeatedly as I chased the bird — it apparently was alarmed. There may have been two family groups or pairs ~~sep~~ in the area but we collected all 4 birds (humilis) within a short distance of one another. Later we noted a lone humilis foraging in the upper branches of a large tree. ~~It~~ It flew down into a dense clump of acacia and vines where I collected it after following it through the dense acacia stand. Many acacias, some of very large size, in this area, and few very tall trees. A man at the farm-house said that the humilis wren is rare — but we did not find it so. He said that the wrens have eggs in May or June. In this same area we took another Thryothorus pleurostictus — this individual was noted foraging a few inches above the ground in a dense bush.

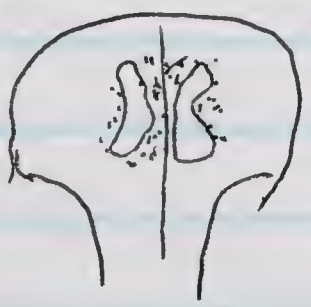
C. chiapensis

5.4 mi. NW Tonalá, Chis., Mexico

March 20 Collected a Icterus pustulatus in same area where we found cactus wrens. Gave specimen to Lamb in trade for a C. chiapensis which one of his boys collected a short distance from camp. Lamb also prepared another C. chiapensis collected a short distance from camp. He now has two skins of this species. ——— Chiapensis males show some enlargement of their testes but those of humilis are of minimum size.

— In late afternoon we watched the group of chiapensis which have been frequenting the area of our camp since we arrived. I believe that there are 4 birds present. At least 3 were seen foraging on the ground and in the branches of a low, dead bush. Singing stops in mid-day but we heard several duet songs in the latter part of the afternoon. Most singing occurs in the morning. Noted one bird in a pile of dead branches near complete in the afternoon a few minutes before dark.

Notes the following incomplete ossification in skull of # 1758.



Two hard, clear areas in the skull.

K. Selander,
1954

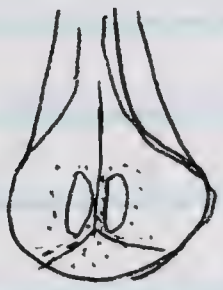
5h

(Recorded)

C. humilis

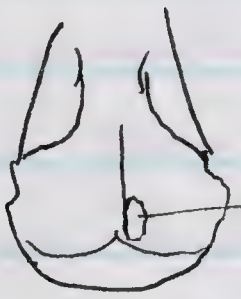
Condition of skulls of specimens collected on March 20 around Tonalá, Chiapas.

1751 – 1st year on basis of wing character. Skull:



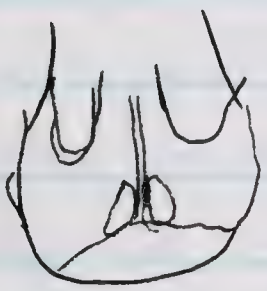
Two clear spots in top of skull shown natural size.

1752



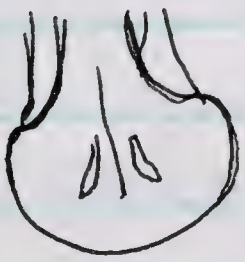
an irregular spot not ossified or at least imperfectly so.

1753



Two clear spots.

1755



Two clear spots.

C. chiapensis

3.5 mi. W Tonalá, 100 ft., Chiapas

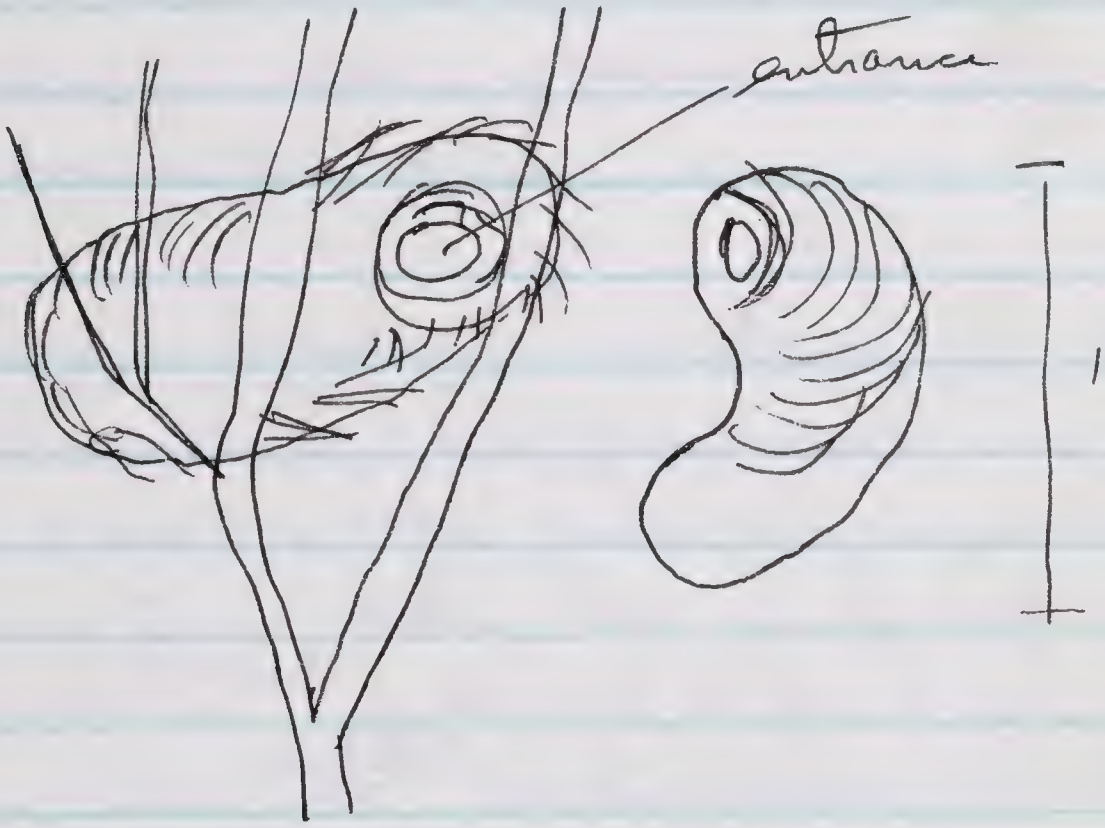
March 21 A pair building a nest in 10 ft acacia. Both birds carrying dry straw-like material in frequent trips to nest. Time 8:30 – 9:15 and more, Occasionally both birds sing together when they both are in the nest tree. Both birds fly up from the ground into the tree partially fanned out. Nesting material mostly long blades of grass and dried vines. Getting nest material either on ground or within 2 feet of the ground. Seem to be making trips to gather nest material together. Except for an occasional duet they are silent when gathering material. Heard a song bird sing cha - clomp - clomp, cha - clomp - chomp in about fast waltz tempo. Last three notes are gurgling. This song was given from nest tree. Then the bird flew to the ground where the other joined her in a few moments. Counted 7 trips to nest in 8 minutes (both birds included). Other birds frequenting the same fence rows are Icterus pustulatus, boreal flycatcher, grove-billed ani, an Empidonax, Cassicules melanicterus melanchoby flycatcher.

Another pair seen 40 yards from the nest of the first pair. Seen foraging about leaves of mango tree high up in in two huge trees. Two nests placed in a large bull-horn acacia – one well built about 10 feet above ground and a partially completed nest 2½ feet above it.

3.5 mi. W Tonalá

March 21 An old, battered nest in another acacia 12 feet away from the other nest-tree.

The nest of this species is bulkier than that of *brunneicapillus* and there is less of a distinct taper from the nest proper to a tunnel entrance.



5.5 mi. W Tonala. - Pair of *chiapensis* in dead tree by road.

Drove on to Paredon, a fishing village at the sea, which is 10.5 mi. from Tonalá. Noted a willet and several laughing gulls.

.4 mi. from Paredon on road to Tonalá - Searched a short time in dry fields without finding wrens. Owner of ranch knew both types, *humeralis*, and claimed that they nest in June.

.4 mi. from Paredon to Tonalá

March 21 We noted no nests. The country here is drier than it is closer to Tonalá and the large green trees are absent.

3.2 mi. from Paredon to Tonalá – an old nest of a cactus wren in an acacia near the road. Directly across the road is a a large guanacaste tree. We searched in a stand of acacia and along a dense hedgerow without finding wrens.

3.6 mi. from Paredon – Two chiapensis foraging 75 feet or more high in a guanacaste tree. Shot one. Heard two other pairs or groups singing in large trees. Noted two nests 20 ft up in a small-leaved species of amate in front yard of farm house which probably are cactus wren nests. May have heard humilis but cannot be sure. Large trees seem to be necessary for chiapensis.

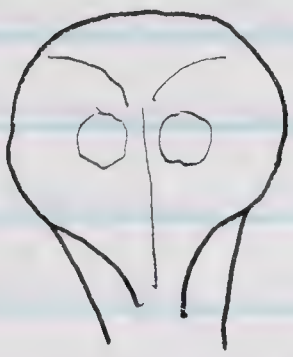
4.2 mi. from Paredon – a chiapensis flew across the road near farm houses.

5 mi. from Paredon – Took a Thryothorus modestus in low bushes at side of road. See photo.

C. chiapensis

3.6 mi. W Paredon, 50 ft., Chiapas.

March 21 1765



Two have but clear areas,

March 22 In morning watched wrens near the tents. Placed a stuffed specimen of chiapensis on a pole ± 7 feet high and placed it near a nest in a bull-horn acacia. One bird brought a piece of nest material into the nest and left without noticing the stuffed bird. On the next trip to the nest, however, it flew down and perched close to the stuffed bird. It hopped to the top of the pole and looked at the specimen. After a few seconds it flew into the bushes near the nest and worked around the nest tree, looking constantly at the specimen. After 10 minutes of this, during which time it remained silent, it flew up the road toward camp apparently and joined the other band of wrens which frequent the trees nearer camp. Later 4 birds returned to the other nesting area but no further attention was payed to the specimen. We then moved the pole with the mounted bird up the road and placed it close to the other nest tree. One bird perched on the nest tree (an acacia) and then flew to the perch beside the dummy. It pecked at the dummy once, looked at it from several angles and then flew into the bushes. No noise was made. No further attention

3 mi. SSW Tonalá, 100 ft., Chiapas, México

was payed to the dummy. Apparently these birds are little concerned with the presence of a strange individual of their species. No other species of birds gave any attention to the dummy. — There is a group of 8 wrens in the area immediately around camp. Most of the time they are divided into 2 groups of 4 each — one group frequents the area of the nest tree just across the road from camp while the other group spend a good deal of time around the nest tree further west down the road. There is mixing of the two groups however. No signs of territoriality. We watched one bird make several trips with nest material to the west-nest and saw 4 birds in the bushes near the nest at one time. There is ~~a suggestion~~ some evidence that all eight birds are associated in pairs but we cannot yet be certain of this. Bonnie saw one bird bring nest material to the east-nest while I watched the bird bring material to the other nest. Singing is heard all day but most frequently in the morning. There is no increase in song in the evening. Singing together occurs frequently when two birds fly into the same tree or bush and meet. The tail is fanned out and slightly down and the wings usually droop, the neck is puffed out; the bill is not raised above the horizontal. Often the birds come close together when singing in a duet. The song may be given by a lone bird

K. Selander, 1954

C. chiapensis

3 mi. SSW Tonalá, Chiapas, México

March 22 but usually two or more sing together. The song alone is a simple "chang-gua-caw" "chang-gua-caw" but when two birds sing they are not together in rhythm and ~~each bird~~ I think that sometime each bird sings a different series of notes. When disturbed the usual note is a rasping "ǰgua > ǰgua" ǰgua > " or a simple "ǰgua." The foraging notes are similar but softer and less excited and rasping. Birds seem to answer one another with these notes when they are foraging some distance apart.

On the ground the wrens hop and the tail is cocked at an angle:

At 6:30 P.M. a group of wrens were foraging and calling "gua-ǰgua" from a pile of dead limbs across the road from the east-nest tree. After flying to the mango tree near camp they returned to the pile of limbs and then one-by-one flew up to the nest tree and entered the large nest above the small nest a nest remainder. 5 entered - then a sixth flew up before the entrance - called a few times (ǰgua) and entered as one other came out of the nest and flew down the road to -

K. Selander, 1954

C. chiapensis

3 mi. SSW Tonalá, 100 ft., Chiapas, México

March 22 ward the west-nest tree. Thus 5 birds are spending the night in one nest. Presumably the other three spent the night in the west-nest tree in the lone nest located there.

We saw wrens working around the nest remainder in the east-tree and think that they may be gathering material to use in construction of a nest which is being constructed at the lowest fork of the same tree.

- Hunted about .5 mi. SSW of camp and took 8 wrens. Each time we found wrens it was in the vicinity of farm houses and invariably large mango trees or other large trees were present. Usually we were first attracted to a group by hearing songs from one of these large trees. I would judge that each farm-yard has one or two groups of these wrens in it. In one situation we found a nest being built in a large thorny leguminous tree ("guamuche" acc. to Bonifacio). At least 4 birds were working about in the tree — two of which we collected — all males with testes about the same size (#1768, 1769, 1770). There was another large nest high in the tree (30 feet or so) above the other nest. We found a fairly well-built small nest in an acacia in tree neighboring yard and collected # 1771 in a coconut palm tree near the nest. This bird also was a male. — It is beginning to look

R.K. Selander,
1954

C. chiapensis

3 mi. SSW Tonalá, 100 ft., Chiapas, Mexico

March 22 as if the presence of a large tree such as a mango is ~~xxxxx~~ important in determining the presence or absence of wrens. The nests do not appear to be placed in these large trees, however, (see exception back a page or two, however) but rather in acacias or other thorny trees at the edges of clearings. Bull-horn acacia is the usual nesting tree. Height of nest placement varies from 7 to about 15 feet above the ground.

We found no evidence of humilis or nigricaudatus today in the vicinity of our camp although we hunted rather thoroughly through the drier, lusher stands of vegetation. Neither of Hamlin's boys has brought in these species to date.

R.K. Selander,
1954

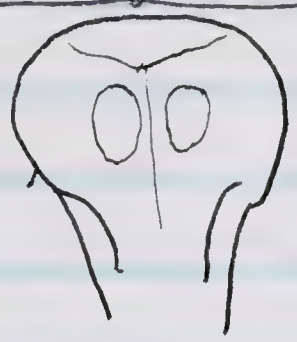
(Recorded)

C. chiapensis

Condition of Skulls of birds taken 3.5 mi. SS Tonalá

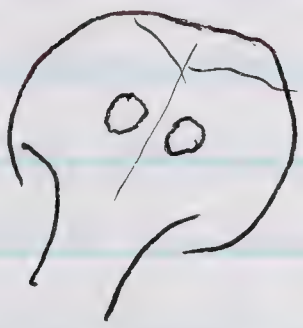
March 22

1768



Two clear areas.

1769

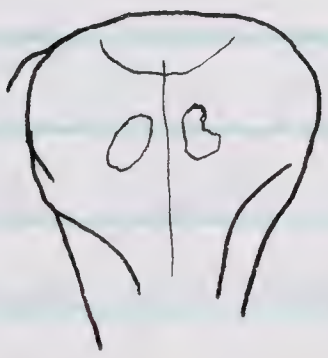


Clear areas

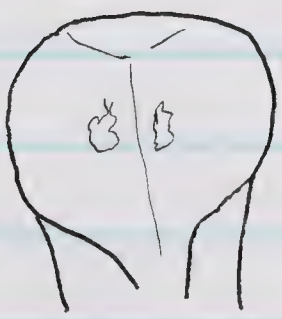
There clear areas have irregular margins; they definitely look pillars of bone but they may be two-layered. It is difficult to see how pillars could be added to form complete ossification.

1770 - same as 1769

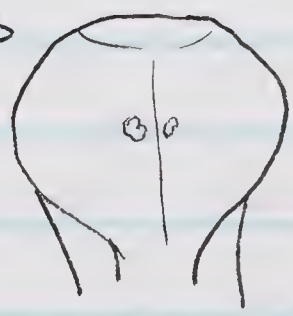
1771



1772



1773



C. chiapensis

3 mi. SSW Tonalá

March 23 Song heard from one lone bird "chan-qua-ca" "chan-qua-ca" given in this tempo ♩ ♩♩ ♩ ♩♩. Three birds sang together while perched a few inches apart on a dead limb. All birds fanned out the tail while singing. Moved through the tree tops slowly and sang once while moving. This morning several birds are working on a nest above and a ~~bit~~ to the east of the big nest in which 5 birds roosted last night. Can hear a bird calling "güa-güa-güa" and "güa". Noted a pair on the ground moving by long hops - something like a rail(?); The wings are held below the tail, the tail is slightly cocked, and the head and neck are held upright, near vertical.

(See also bottom of p. 19 for trip to Cuetzalapa)

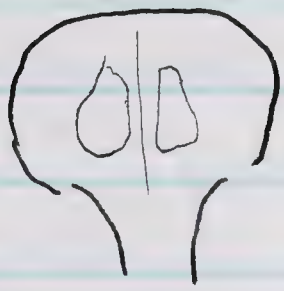
R. K. Selander,
1954

15b

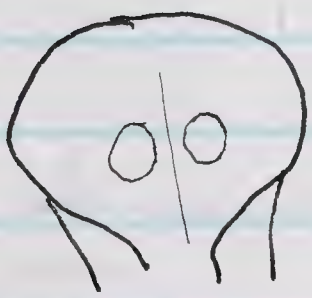
(Recorded)

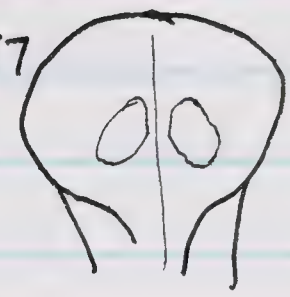
C. chiapensis & humilis

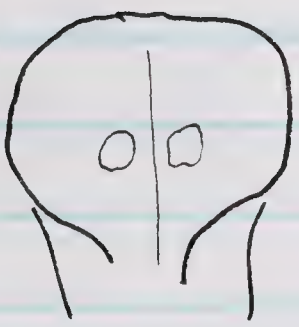
Condition of skull of C. chiapensis taken March 23

1781 

Two ~~thick~~ clear, hard areas

1782 

1787 

1783 

K. Selander, 1954

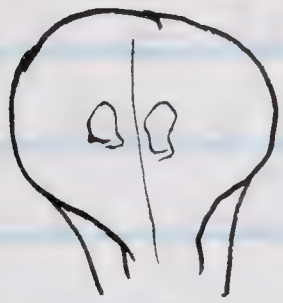
Records

C. chiapensis

Skull of Wrens taken on March ~~24~~

1791 - brunneicapillus

1792 - chiapensis



K. Selander,
1954

C. chiapensis (and humilis).

SE of Tonala, Chis., México

March 24 Drove out on road to Ocuilapa as far as Rancho Ocuilapa. At a point 2.6 mi. SE of the Rio Sanatenco near Tonala we found a group of chiapensis in a fairly typical situation, although the country along this road is much drier — larger grassy fields — and few mangos and other large trees, although the Guanacaste is common & sometimes huge. Near the road where we stopped I heard a wren singing about ~~30~~ 15 feet up in a dry open tree — "Look-at-me-caw", "look-at-me-caw", "look-at-me-caw." I recognized it as a wren ~~to~~ song. Shot the bird — a male (humilis) which may be intergradient with nigricandatus. No other small cactus wrens were seen but we noted a nest in a hull-horn acacia about 30 yds from the tree. Will investigate the nest later. This is the same area in which I observed a pair of small cactus wrens in October — and in view of the large size and white belly of the specimen taken today I am no longer sure that the two birds seen in October were nigricandatus as I thought at that time. We drove on toward Ocuilapa after making one short stop between 2.6 mi. SE & Ocuilapa where we hunted without finding any (cactus) wrens. Made several observations of Thryothorus pleurostictus along the way and took a specimen 4.8 mi. SE Tonalá. At Rancho Ocuilapa, which is located

K. Selander, 1954

C. chiapensis

SE Tonalá, Chiapas, Mexico

March 24 on the Río Ocuilapa (some water from springs in it near the rancho) in a dry situation between two rows of low thorn-forest hills. The hill toward the main mass of the mountains is the longer by far. The hill bordering the valley on the laguna side is very low. I think there is a about 1-2 miles between the two. Noted chiapensis in a few spots on the Tonalá side of Ocuilapa but it apparently has a spotty distribution in this valley. Noted one pair in an unusually dry situation bordering the road — only small trees & shrubs present — but we found no nest. Very few birds active in mid-afternoon. Place must be hunted early in the morning.

Met Irby Davis and a Mr. Kincaid driving up from Tres Picos — a town about 15 miles beyond Ocuilapa. The claimed to have seen T. pleurostictus commonly all along the way to Tres Picos. They also reported seeing C. chiapensis at Tres Picos and a a few intermediate spots but I gathered that its distribution is spotty. Davis remarked that beyond Ocuilapa "sometimes you get them — then for a ways there are none — and then you get them again." They also mentioned hearing a pair of nigricandatus singing "just beyond

R. K. Selander, 1954

C. chiapensis

SE Tonalá, Chiapas, Mexico

March 24

Rancho Ocuilapa". They said that it becomes increasing common as you go down toward Tres Picos, reported it at Tres Picos, and said that T. pleurostictus is common all along the way. It is possible to drive beyond Tres Picos but the road is poor a "hard to follow" — winds from one small settlement to another. Davis mentioned having recorded the songs of chiapensis and nigricandatus and reported that there is a good difference between the song of nigricandatus and humilis — although he seemed a bit confused on which kind was humilis. He also mentioned having recordings of other cactus wrens.

At Ocuilapa the man told us that the chanfuaca was "bastante" but sings only in the morning. We hunted around a bit in a good stand of trees — but no mangos — nothing finding wrens. It was 1:30 so we returned to camp. Very hot today with few birds active after about 11:00.

March 23

Yesterday (March 23) we drove to Quetzalapa and got chiapensis only. Country there is similar to that around camp — maybe a bit hotter & drier.

C. humilis and nigricaudatus

SE Tonalá, Chiapas, Mexico

March 25 Drove directly to a point 2 mi. SE Ocuilapa early in the morning. In a patch of cut trees we found perhaps 10-12 C. nigricaudatus × humilis individuals. They were foraging in small trees around edges of cut-over forest area and on the large tree trunks and branches of the trees. I judge that this area (almost $\frac{3}{4}$ city block in area) was cut sometime this year as the wood was still clean where cuts had been made. One pair we watched for some time near the port of the cut-over area adjacent to the road. The two birds were foraging close together and almost invariably moved about together. On one occasion one of these two birds chased another over through the trees (in the area the pair had been frequenting) in a chase which looked as if it were a territorial defense. While the chase was in progress both birds seemed to be calling excitedly, while the third (the female?) remained quietly perched on a low branch in the area. After the chase one bird involved returned to the area and sang a song. — Whenever the pair moved from one place to another they sang almost immediately after — and often they began the song on the wing just before arriving at their new perching place. On several occasions I heard one bird sing while the other gave a fast series of garbled caws. I believe this is of common occurrence.

SE Tonala, Chiapas, Mexico

March 25 Songs in duet of this type were of short duration and immediately after the two birds parted a bit and continued foraging. When dueting the birds perch close together or move about one another. The tails ~~are~~ is fanned out & down as in chiapensis the bill is pointed up at an angle and the neck stretched up and puffed out, the wings are lifted out a bit and drooped — a definite posturing very similar to that of chiapensis. Generally these small wrens are more active than chiapensis and hence are harder to approach and study although I doubt that they are really warier.

One duet went like this:

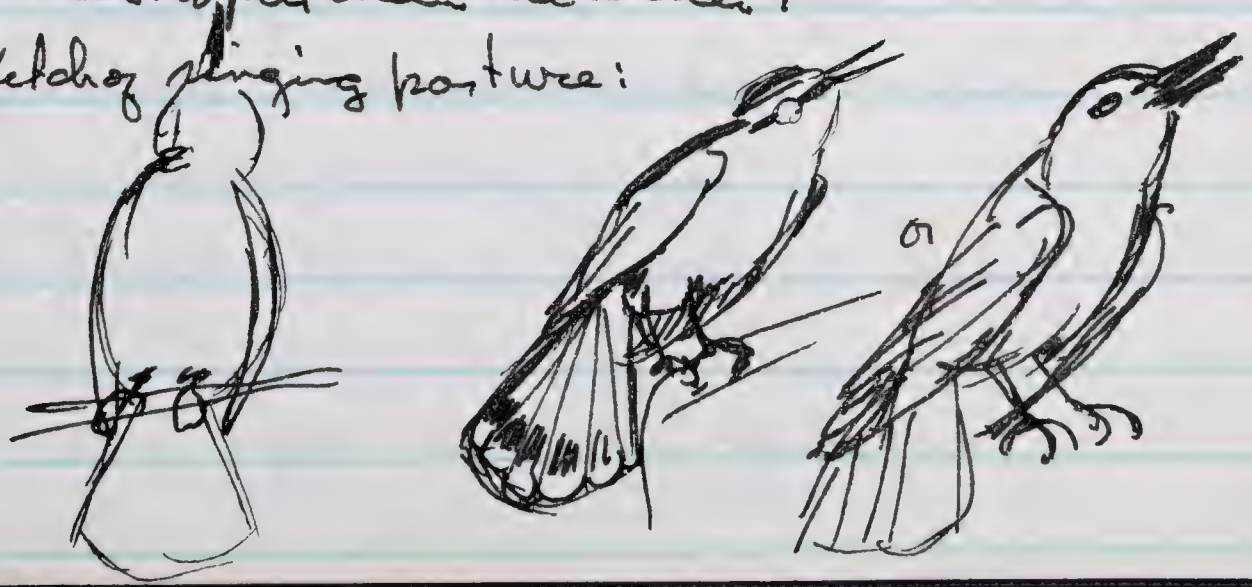
♂ (at least the longer more active bird) sang "coo-hee" - "coo-hee - "coo-hee" (two notes only) while the ♀ sang a fast "ta-we", ta-we- "ta-we".

Another duet heard as follows:

♂? "whee-too", whee-too", "whee-too"

while ♀? gave a fast chaw-chaw-chaw-chaw rather softer than the other.

Sketching singing posture:



K. Selander,
1954

SE Tonalá, Chiapas, México

March 25 Calls are rather varied:

① "caw", "caw-dit", "ca-ca-caw" (very fast)

② "qua-qua" very fast – may be same as ① (common)

③ "qua-dot" (very fast – may be same or variation of ①

④ "ca-dot - cat-dot" – very fast, may be some or variation of ① – this type note given while foraging.

Songs:

① one bird sang "who-meet, who-meet" etc while another gave a garbled qua series. This may be variation or same as song described on previous page by a pair. In this case also two birds were perched close together with tails fanned out.

② "Pico-wa, pico-wa, pico-wa" – lone bird.
or "Pico-what, pico-what, pico-what"
or Pico-weet, pico-weet – lone bird gave this fast,
or "wheet-do-it, meet-do-it, meet-do-et"
given by a pair in perfect unison. Birds may have been a bit disturbed.
or "Tweek-o-we, tweek-o-we"
or "cha-que-co, cha-que-co"

SE Tonalá, Chis., México

March 25 ③ This heard once - a song

"Cheek - o - we - wa, Cheek - o - we - wa"

Usually song lasts for several seconds (3-4) and each theme is repeated several times. Singing & calling stopped after about 10:30 and after that time birds were extremely difficult to locate.

④ "que - qua", "que - qua" - "que - qua"

Song?

Noted Thryothorus pleurostictus foraging a few times above ground in same area frequented by pair observed. Also noted a pair of T. pleurostictus in an open situation foraging on tree branches of cut-down trees on SE end of the cut-over area. Late in the day I collected 4 wrens in a group of small trees on the other side of the road from the area frequented by the pair observed earlier in the day. 3 birds were associated together in this small clump of trees.

I walked around the cut over area at about 10:15 without hearing more wrens. I hunted a few minutes on the hillside where there is a stand of rather low deciduous trees but saw no wrens or rest. In fact, we found no nests in

SE Tonalá, Chiapas, Mexico

March 25 the area - but we did not search thoroughly. From the hillside I would say that more than half of the original forest area in the valley is in cultivation or is in the process of being cleared. To the South there is a long dry, low hill with a rather dense low forest on it. The trees to the base have been cleared most of the way along the valley which is about $\frac{1}{2} - \frac{3}{4}$ miles wide. Near our study area the forest extends down to level ground from the hillside - on level ground the trees have been chopped down for the most part but a few remain. There are very few large trees in this valley - the largest being guanacaste trees. Bonifacio said that the common tree with oak-like leaves is the tatopote - this is rather common in the area we studied today. There are several other trees - all deciduous. Areas which appear to have been previously cleared are now covered with a dry lemon grass. Here and there - and especially near the streambeds, the vegetation is greener and more lush - but generally the area is much more arid in appearance. We noted no mango trees around our study area. I should judge that at one time this entire valley had a rather dense deciduous forest in it - with larger trees than those now on the hillsides - since

SE Tonalá, Chiapas, Mexico

March 25 the remaining trees in the valley and along the base of the hills are of good size in many cases — on the hills to the North the forest extends only about half way up, then becomes thinner and finally the summit is almost bare of vegetation. It will be important to determine whether humilis or nigricaudatus inhabit this forest in its undisturbed condition. If so there is probably a fairly good connection between populations of the two — if not then they may have only very recently come into contact as habitat was made available when clearing of this valley was undertaken.

We drove on to what one man at a casita told us was the Rio Palka. This was at a point ~~4.4~~ 3.6 mi. (by road) from Ocuilapa. He claimed that La Palka was only 4 Km. distant and that Tres Picos was 16 Km. farther along the road. (The casita was .8 mi. beyond the Rio Palka. This man said chiapensis ~~was~~ are rare around his place but said that they are common around Tonalá. The high, sharp peak on the N ~~end~~ edge of the range flanking the Laguna on the SE he called Pico o Cerro Vernal.

We saw no chiapensis today. They must be rare in this valley, especially in the SE portion. Noted many of same birds as seen around Tonalá — the only ~~one~~

thing different being the occurrence of
Columbigallina rather commonly. We
have not noted them around camp 3 mi.
SSW Tonalá.

K. Selander, 1954

Recorded

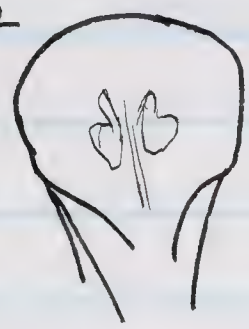
C. humilis x nigricaudatus

Condition of skull of specimens taken March 25

March 25

1801

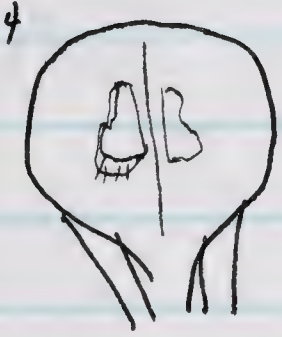
1802



1803

Skull same as 1802

1804



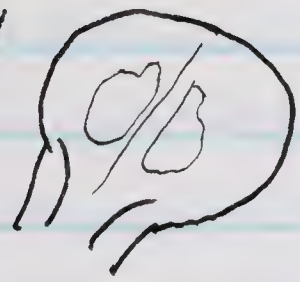
1805 - complete ossification

K. Selander,
1934

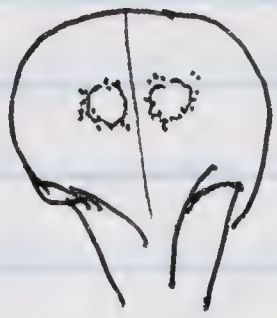
(Recorded) C. chiapensis

Skull condition of Chiapensis - March 26

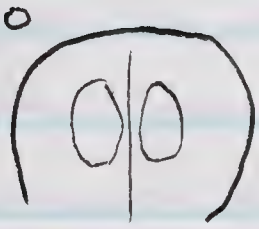
1814



1818



1820



1818

almost complete
- much like 1818.

2.6 mi. SE Tonala'

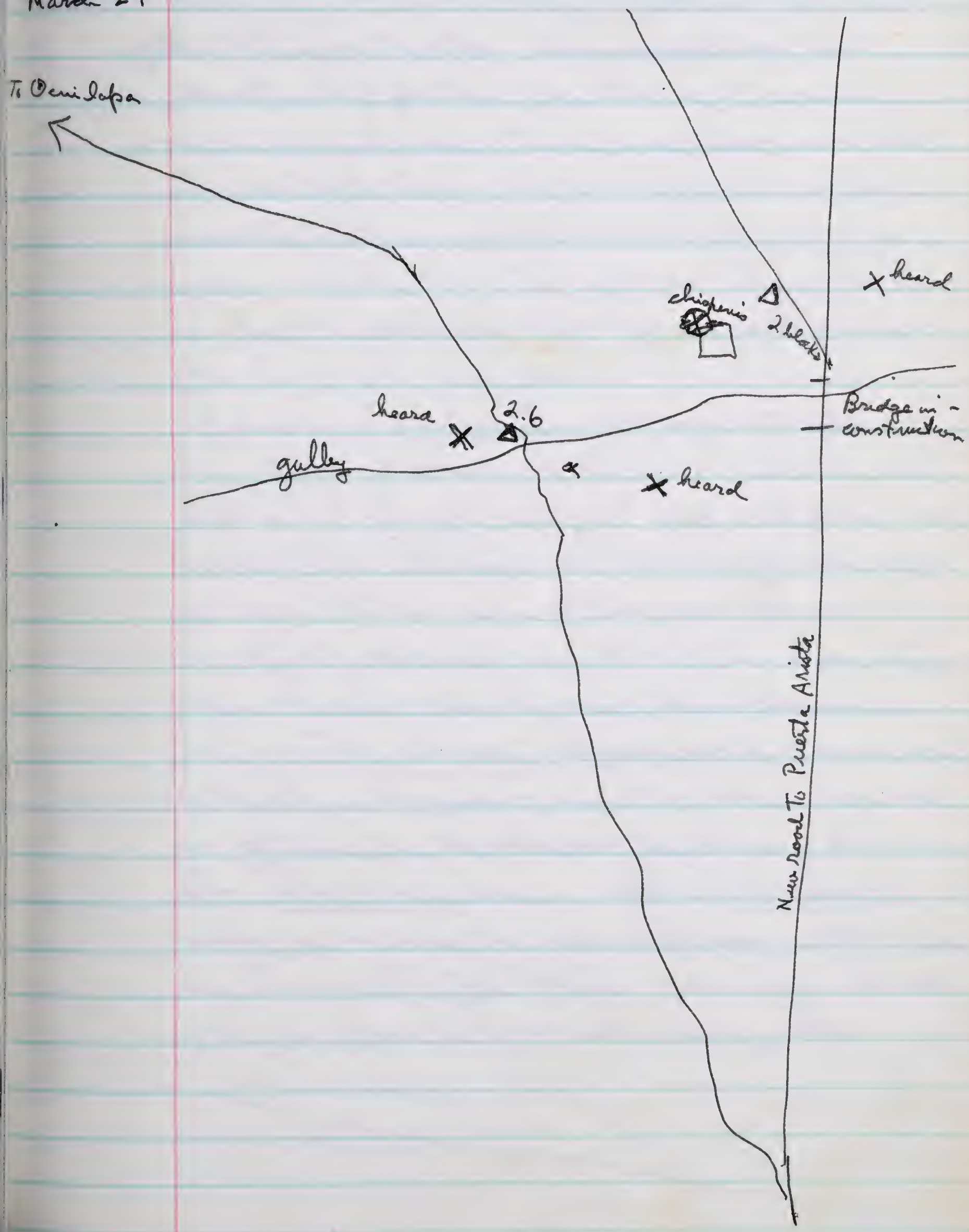
March 27 Hunted in dense acacia and thorn-tree near place where we took humilis March 24. Heard one call of a small cactus wren. Two groups of chiapensis located, both around the few larger trees in the area. T. pleurostictus seen in a low tangle of vegetation, and I observed a wren I am quite certain was T. modestus in the same tangle. The nest in the acacia by the tree in which we took humilis March 24 is a nest of the social flycatcher & boliana.

Found a pair of humilis-like birds along a road leading from the new highway. They were foraging through a row of small trees along a fence along the road. In an acacia nearby are two large cactus wren nests. (See photo 4-4). Call notes heard:
"cha-chit" - very fast and nasal. qua, qua-qua notes about same as those day before yesterday, possibly higher pitched, thinner.
Songs given by one bird:
tilling chatter then who-meet, who-meet, who-meet, who-meet - given rather fast. Lengthy song. On another occasion the song was more like "ha-meet, a-meet, a-meet, a-meet.
One other time given as follows:
trill
wwwwww-a-meet, a-meet, a-meet, a-melt, a-meet.

K. Selander,
1954

2.7 mi. SE Tonalá, Chiapas, Mexico

March 27



~~one~~ 2.7 mi. SE Tonalá, Chiapas, México

March 27 One time one of the two birds sang "weet-weet-we-weet" "
after it flew to join the other. I watched while one bird preened the back feathers of the other as it perched motionless with head extended and downward and fluffed into feathers. The two birds were always associated while we watched and I believe they were a pair. At about 10:15 we could no longer hear them — at about the same time the songs and calls of most of the birds in the area ceased.

I found a T. pleurostictus foraging on the ground among the dead leaves in the same spot where we first noted humilis and just back a bit from under the nest tree. The wings are constantly flicked out and I believe serve to turn over leaves.

In a tangle of acacias a small, thin trees directly across the road from the nest-tree I found a pair of T. modestus foraging near the ground and on the lower branches of smaller trees. I can see no difference in the habitat preference of these two Thryothorus wrens. Heard chiapensis calling just across the new highway. Also heard one "Pico-weet" type call when wren song this side of the new road in a small group of trees.

2.7 mi. SE Tonalá, Chiapas, México fence row

March 27 Took two photos (4-1, 4-2) of the ~~nest tree~~ of the humilis like ewens and also two close-ups of the nest tree (4-3, 4-4).

Of the two humilis-like birds seen today — one seemed lighter brown than the other, particularly on the lower back & rump and around the eye.

Río Tilapa 4.4

March 28 Rode out to the Río Amatillo, 2 mi. NW Tonalá and hunted SW of the road. Heard chiapensis singing, but no evidence of humilis noted. We then drove SW from Tonalá on the road to the Rancho El Huisachal and made a stop at the Rancho San Francisco, 2 mi. SW Tonalá, where we collected two chiapensis and heard several other groups. The vegetation at this point is similar to that around camp but somewhat more lush. No evidence of humilis.

March 29 Up at 6:00 to study wren behavior but was sick most of day from scorpion bites, Recorded the following activities:,

C. chiapensis

March 29 — 3 mi. SSW Tonalá, Chiapas, Mexico

A.M. 6:21 1 in 2nd nest up, working, silent.

6:23 Flew into tree, 10 ft. up

6:28.5 ~~on ground~~ log on ground

6:24 on ground picked up straw and worked up tree to 10 ft, then to 2nd nest up.

6:25 Two others foraging 10-12 feet up along bare limb.

6:25.5 - one flew to ground, returned 10 ft. up in tree with straw, then flew to 3rd nest up (= roost nest)

6:26 Same bird flew to ground. - 6:29 bird returned with straw to nest #2. 6:29:5 flew to ground 30 feet from the nest. 6:30 one bird foraging on logs on ground, another on ground hunting nesting material. one foraging 25 feet up in tree, inner branches. 6:27 3 birds singing in poor unison "zhang-cara-ca"

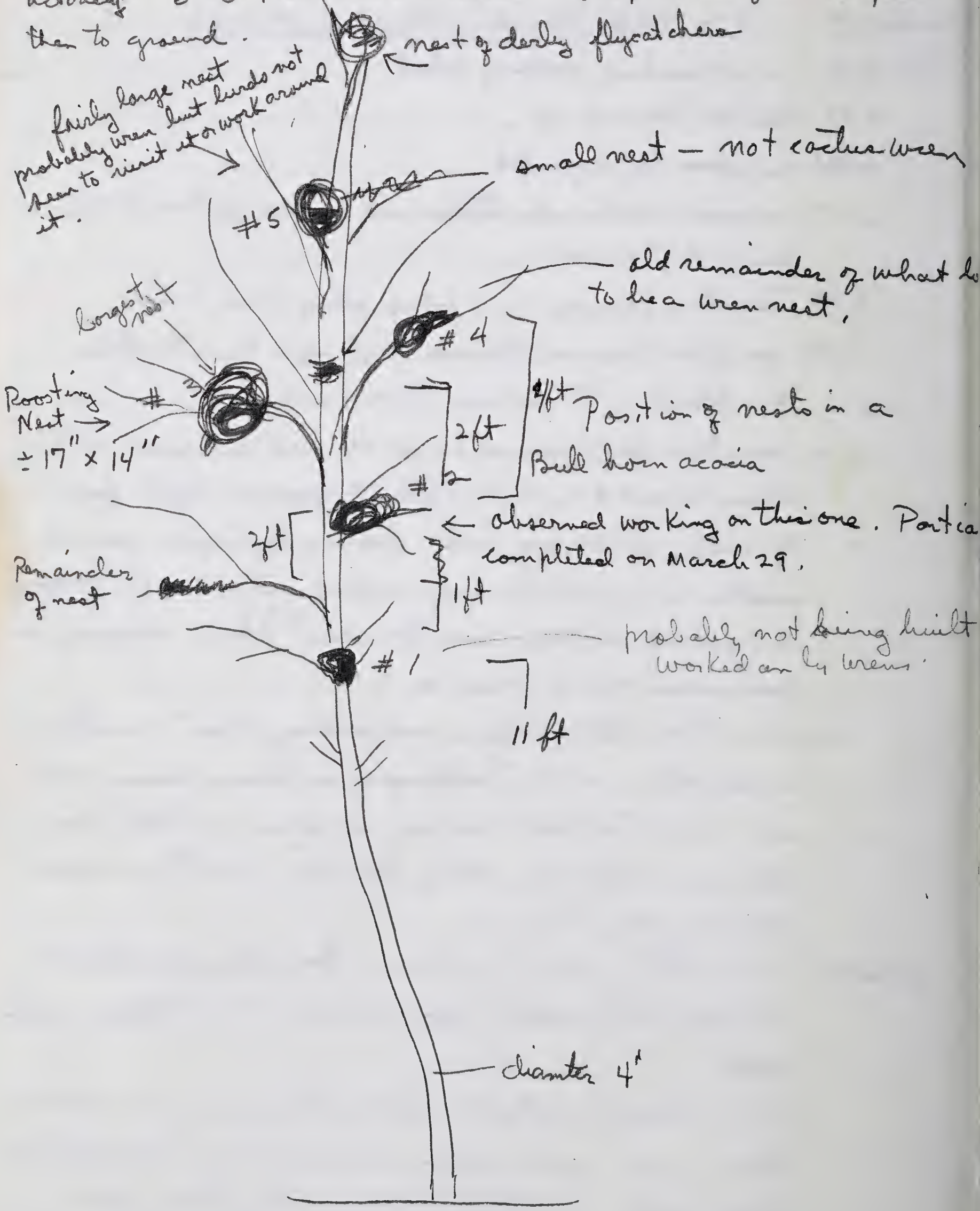
6:35 one bird sitting on fence post calling "gua", another in log pile. 6:36 Two foraging in heavy vines 10 ft. up. 6:38 two birds working up vines in high tree 50 ft. up. and foraging along branches of this tree — some branches very thin.

6:36-47 — Nothing seen! 6:48 - Two birds on log getting nest material

6:50 one flew to nest #2 from 10 feet up in tree, ~~stayed in nest with~~

6:52 Second bird flew to nest #2 with straw — "ow-quo-quaw, ow-quo-caw, ow-quo-caw" at nest entrance quiet alone. 6:54 Same bird pulling straw from old nest in same tree & returned to nest #2, 6:54 flew to tree 10 ft. up, 12 ft up, 15 ft up — working up — 6:55 - flew

To post, then to ground. 6:55 - Two birds together on ground. One flew to nest #2 & straw and then directly to ground. 6:56 one on ground the other 2-3 feet up in dry herbs. 6:57 Bird on ground flew to nest #2. Both these birds are working on nest #2 rather actively. 6:58 Both birds in nests - 6:59 Both flew to post then to ground.


nest of derby flycatchers
fairly large nest probably wren but birds not seen to visit it or work around it.
small nest — not certain wren
#5
old remainder of what looks to be a wren nest.
longest nest
#4
Roosting Nest → ± 17" x 14"
#3
4ft
2ft
Position of nests in a Bull horn acacia
#2
2ft
observed working on this one. Partially completed on March 29.
Remainder of nest
1ft
probably not being built worked on by wrens.
#1
11 ft
diameter 4'

R. K. Selander,
1954

O. chiapensis

3 mi. SSW Tonalá, Chiapas, Mex.

March 29

7:00-7:06 — 7:06 one bird entered nest # 2, flew to perch for a second, then way down the road to the large green tree on this side of the fence — singing heard just after it flew into that tree at 7:07.

7:07-7:14 — 7:15 - one flew into tree 15 ft. up in dense vegetation between the two nest trees. 7:1515 another joined the first,

7:25 Two birds at nest # 2. one to ground, other to perch. 7:25.5 one on ground to nest through tree ẽ straw. 7:27 other to nest ẽ straw. Both at nest. 7:28 one to ground, then the other to ground in a different direction. 7:29. one to nest while two others on ground. One of these flew to nest 3 with straw.

End of observations

6:35 P.M. - One were entered the roost nest in the east nest-tree. The big roost nest is used every night — while the were spend a good part of the morning building nest # 2, although occasionally a bird will take a twig to the big roost nest.

R K Selander,
1954

C. chiapensis

Plant Collection

3 mi. SSW Tonalá, Chis., Mexico — Following
March 29 plants visited by C. chiapensis around camp.

1 - Mango - a large tree.
2 - Small tree with a oval gourd-like fruit "Hicará"
3 - Low vine-type shrub
4 - Bull-horn acacia from the nest tree.
5 - Medium sized tree.
6 - Small tree
7 - Tree. "Guamuchal" or "guamuche"
8 - Viney tree
9 - Plant
10 - Large tree just over fence in field between the two nests.

In addition to plants collected there are several very large guanacaste trees in the mass of vegetation frequented by the wrens. Also some palms of several types in neighboring trees but these are not used by the wrens we are watching.

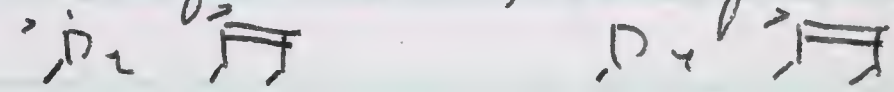
R. K. Selander,
1954

C. chiapensis

3 mi. SSW Tonalá, Chiapas, Mexico

March 29 Photographs taken around camp - 4-5 - Lamb and her boys working. 4-6 to 4-10 - Various shots of nests around camp and typical habitat of groups of chiapensis we have had under observation.

March 30 Single bird: "ow - qua - ca , ow - qua - caw"



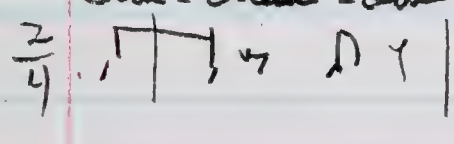
When two duet one often gives a qua - qua, qua - qua - while other sings a garbled "chanca-caw song" - Two distinct themes.

Shot the pair that were working on nest #2 in the east nest tree. Shortly before this I noted a large group foraging in the palms in the field near camp. A high caw - caw - caw - like a cat mewing - a whining note - sometime like "haw, haw, haw - given by a single bird - each note about ⅓ second in duration. This is a call to other mems of helpers - a location note perhaps.

Chu - chow - how - single bird at roost nest.

Throat puffed but tail was not fanned. A variation of the chancaca call of helpers.

chu - chaa - ow - single bird song once.



R.K. Selander,
1954

(Recorded)

C. chiapensis

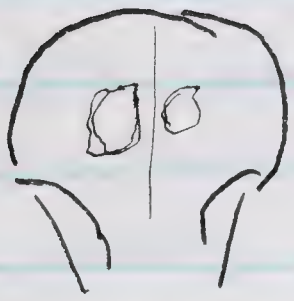
35b

Skull Condition of chiapensis taken March 30

1854

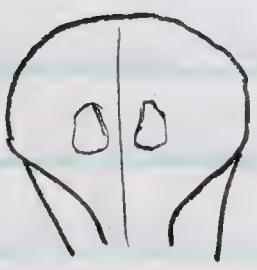
1855

1858



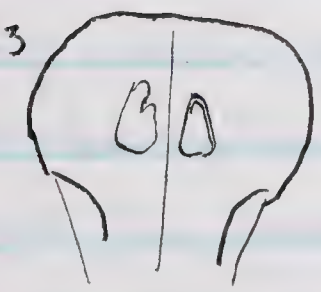
1857

1861



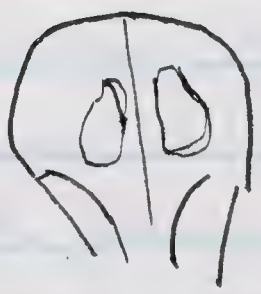
1862

1863

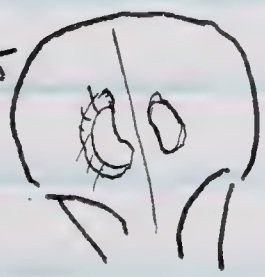


1864 - Skull same as 1855

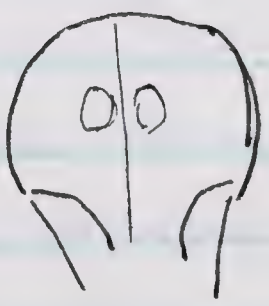
1867



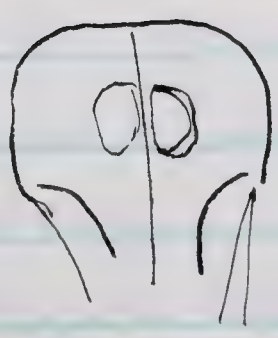
1865



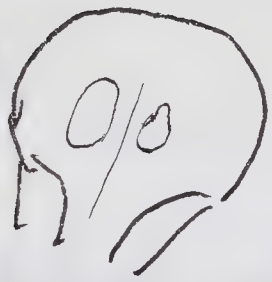
1871



1870



1872



1873

1874

T. K. Selander,
1954

C. chiapensis & nigricandatus

3 mi. SSW Tonalá, Chis., Mexico

March 30 Derby flycatchers taking material from nest #1. Bonnie is now not sure that she saw the wrens building at this nest & thinks that they may only have been perched on it.

" ow-↑-chua-cha, ow-↑chua-cha, ow-→chua chaw given loudly by a single bird in bushes near nest tree.

" ow-→chu-cwaca, ow-→chu→cwaca" same bird, this time a 4 note song. ⌐ ¬ ⊐. Collected this bird (#1854) after it had called in tree near the nest tree for about 10 minutes. It was seen to forage at medium heights above the ground but called rather often — perhaps attempting to locate or contact the pair I had collected earlier. This bird was seen to visit the roost nest once. One when this bird sang another group answered from a distance. Collected another lone bird in tree near our tent. (#1855)

March 31 Moved from camp in morning and drove SE of Tonala to a point 5.3 mi. beyond Rancho Ocuilapa where we made camp off the road in the yard of the Rancho OKeoney on bank of Rio OKeoney. People here say we are very close to La Barita and that the Rio OKeoney flows SE of the Cerro Bernal (ie. not into the Laguna. Just before arriving at camp we climbed a little and are now at the edge of the NE range of hills we have been following. Will get a better description of the area tomorrow. The vegetation is rich along the river but quite

R.K. Selander, 1954

C. nigricandatus

Rancho Orconez, SE Tonalá, Chis., Mex.

March 31 different from that at Tonalá. As you ente the "Ocuilapa Valley" SE of Tonalá the vegetation immediately becomes drier, lower, & more open — a definite change. This continues SE in the valley but at the slopes of the hills there is a good forest like that near our present camp. The mango is rare. The totoposte is a common tree as is the guanacaste. There is a short palm around camp which I don't believe we have seen before. Birds here somewhat different from those at Tonalá. Hundreds of white-winged doves in flocks, green-jays (1 taken), squirrel cuckoos, Thryothorus pleurostictus — one taken in a dense, dark thorny patch at the edge of the stream, at 4:30 I heard a nigricandatus ~~call~~ sing twice near camp but failed to locate the bird. Hunted about an hour around camp without seeing or hearing cactus wrens. The men here at the Rancho Orconez apparently know the "chanchaca chacita" and claim that it is common here. They recognized C. chiapensis when I showed a specimen to them but they may have seen it around Tonalá. — There are several freshly burned over areas just beyond the river where the forest is being cleared. We saw numerous fires on the hills coming down from Tonalá and there are half a dozen fires burning on the Cerro Vernal now. The men claim that Tres Picos is on the railroad about 13 miles beyond

R. K. Selander, 1954

C. nigricandatus

Rancho Oriconez, SE Tonalá, Chis., México

March 31 our present position. The road is terrible, bowlders, and we have had much trouble with large bowlders in the middle of the road so I doubt that we will be able to continue further down towards Tres Picos. I thought that we were on the SE end of the Ocuilapa Valley but I think that it continues further SE. In any event it appears to narrow here at camp as a dome-like hill on which we are camped splits the valley into two smaller ones. This formation may act as a barrier to nigricandatus provided that form does not inhabit this foot-hill type deciduous or sub-deciduous forest. Perhaps clearing of patches of forest has allowed humilis and nigricandatus to come into contact. This can be shown if we find these birds only at edge of cleared areas as we have in the past.

April 1 Hunted wrens NE of camp in early morning and collected 8, of which at least 7 are good nigricandatus; one other has a more patterned back than in pure nigricandatus. We found these wrens in dense clumps of thorn bushes along the fence and in the small gulleys. One group of 3 wrens we found in a short palm tree in the yard of a ranch. These flew to a large guanacaste tree when we shot at them in the palm. There we several thin, short bull-horn acacia trees near the palm. The wrens seemed more wary than those near Ocuilapa and kept well down in the dense bushy vegetation — most of which

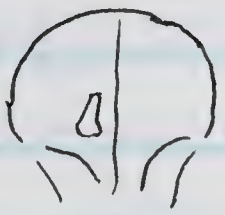
Rancho Oreonez, SE Tonalá, Chiapas

April 1 is thorny — many thorn vines and the combination of vines & bushes forms an almost impenetrable mass about 10 feet high at best — although an occasion small tree is taller. Found one possible nest place up about 8 feet in a fair-sized bull acacia in a clearing at the edge of one of these dense masses of bushy thorn vegetation — (could have been nest of a flycatcher, however). I judge that there is a fair-sized population in the area. We did not find wrens in the lusher, large-tree forest vegetation adjacent to the rivers, but rather in the drier areas in the dense bushes and small trees. Bonnie did not see or hear any around camp this morning — although we occasionally hear one sing not too far distant from our tent. The only song I have heard here is the "Pico-weet, pico-weet" song. The caw-a "gua" notes of nigricandatus here seem huskier than those of humilis. There was little singing this morning about the wrens were fairly active. In the same place where we collected nigricandatus, Bonifacio shot a Thryothorus pleurostictus and I a Thamnophilus doliatus (♂). Will have to look over the country better tomorrow but I believe that the bushy growth frequented by the wrens is a secondary vegetation type coming in on cleared areas.

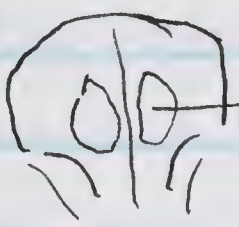
(Meander)

Skull condition of C. nigricandatus collected April 1, 1954

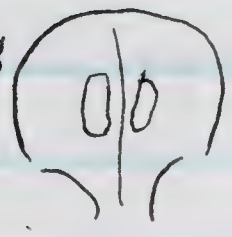
1879



1880



1878



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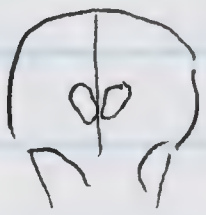
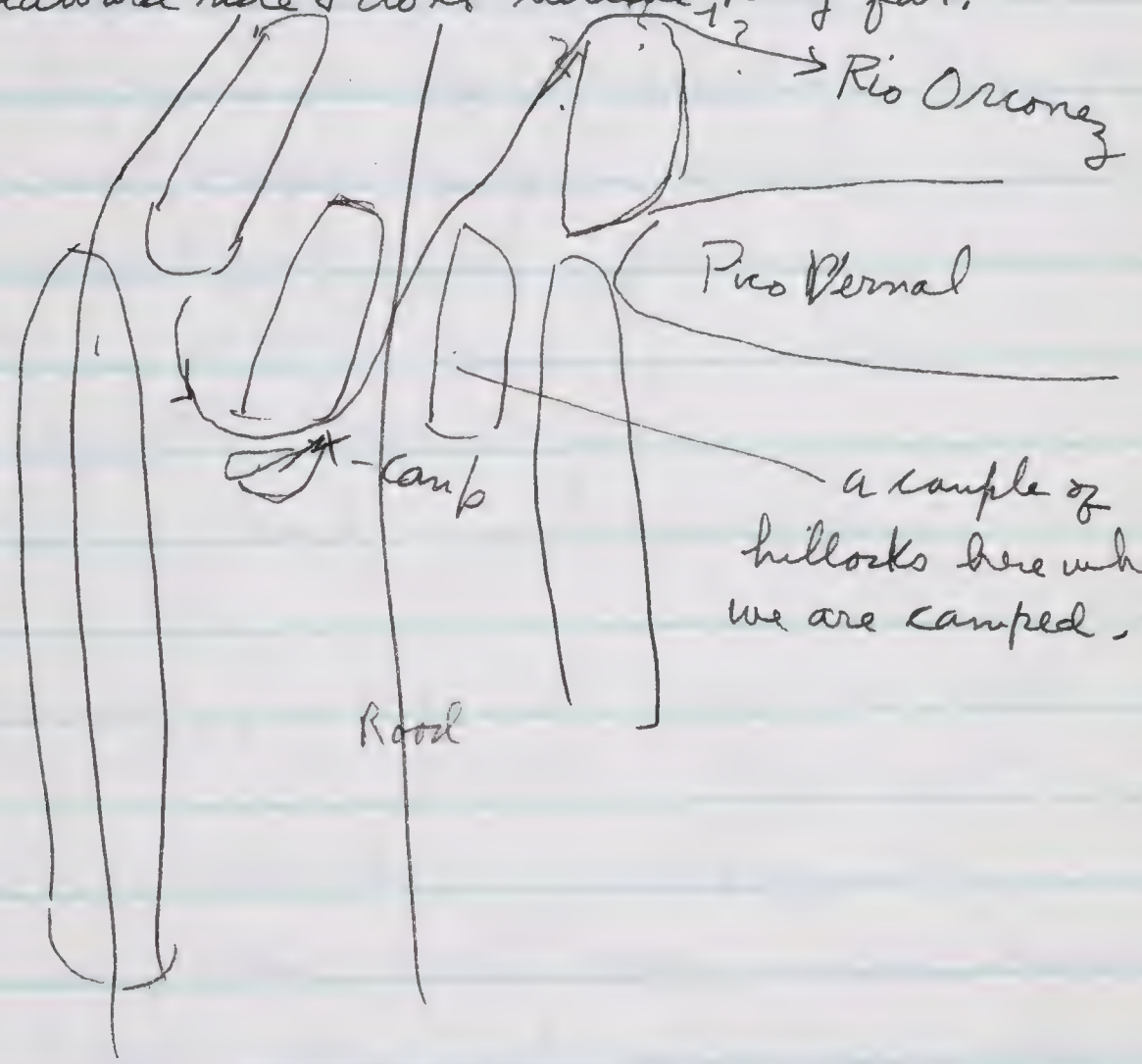


C. nigricaudatus

Rancho Orconez, 16.1 12.1 mi. SE Tonalá, Chiapas, Mexico

April 2 Hunted SE of camp about ½ mile. Took several color shots (Roll ~~5~~) and nearly full roll of B&W (Roll 6) of wren habitat and of the surrounding hills. The hills continue of both sides of the road beyond Pico Vernal but then continue very far.



The vegetation here is mostly deciduous. The guanacaste is the tallest tree but there are other tall trees. The greenest portion is around the river. Farther to the SE it is drier. Birds seen in association with nigricaudatus are: Habia gutturalis, green-jay, Thryothorus pleurostictus and modestus, Thamnophilus doliatus, Crotophaga, Icterus pustulatus, Piaya cayana. Wrens singing in the early morning but after about 10:00 they are rather silent. — Noted also Buteogallus, Aratinga, a chachalaca, Cassiculus melanicterus (not common).

Rancho Orconez, 16.1 12 tmi. SE Tonalá, Chiapas

April 2 Wrens are in small groups - 2-4 birds. Took a picture of a possible nest.

The songs are:

① Pico-what or Pico-weet (most frequent) ♫♪ , ♫♪

sometimes given quickly several in succession and occasionally given slowly and sweetly. In any event this is the most frequently given variation of the song.

② pe-e-co-weet (gua) , pe-e-co-weet (gua)

Not a frequently heard variation.

③ oo pi co weet — heard once.

④ we-do-it , we-do-it , we-do-it

⑤ week-o-wat-da — not frequent

⑥ oh-wee-ho-weee-wa — not frequent

⑦ who-weet , who-weet , who-weet , who-weet given fast. This is frequently heard.

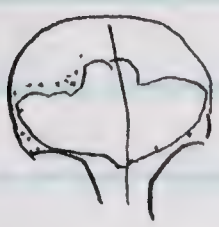
Notes: a gutteral, rasping gua, gua-gua-gua (run together). I did not note many occasions when the birds duetted but I am sure they do.

We found wrens rare along the stream but generally distributed in all vegetation in the area - although cut over areas & edges of these areas are preferred habitat.

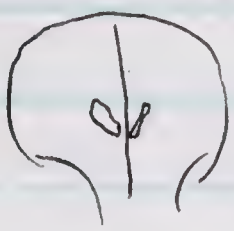
(Recorded)

Condition of skull of C. nigricaudatus Tobar April 2, 1954

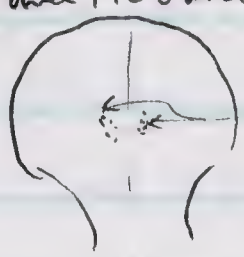
1902



1903

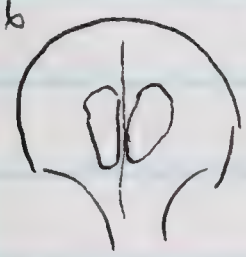


1904 and 1908 and 1913



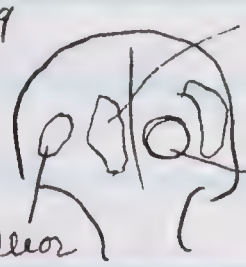
incompletely pulled over

1906



1907

1909

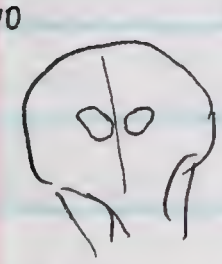


yellow

looks like an injury

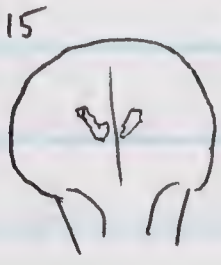
clear

1910

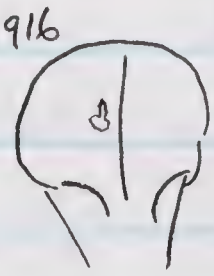


1911

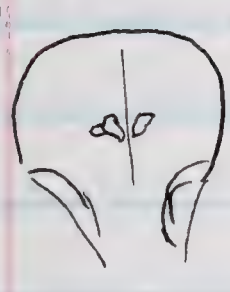
1915



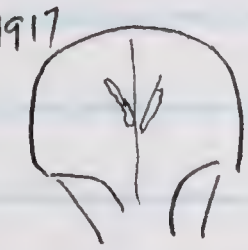
1916



1914

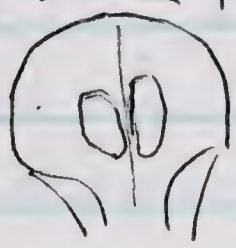


1917



April 3

1923 — and 1925, 1926



Rancho Oreonez, 16.1 mi. SE Tonalá, Chiapas

April 2 We never saw the wrens on the ground. They prefer the more middle levels of vegetation and logs which have fallen. The tail is cocked thusly a good

deal of the time.

The vegetation here is much lusher and more jungle-like that that around Rancho Acuilapa. Actually it seems similar in many respects to forest around San Fernando or Santa Rita, Chiapas, although there are few evergreen species. All in all it seems to be good wren habitat and there is a rather fair sized population in the area. No chiapensis heard or seen, and the reason for their absence is difficult to see.

April 3 Drove to a point 12.1 mi. SE Tonalá and camped at a small rancho. Many pauraques calling in the night.

April 4 Hunted around camp in a cleared forest area where we found a few nigricandatus frequenting the trunks of the cut-down trees. Country here is dry and savannah like with clumps of trees placed in fields of coarse, dry grass. Wrens were uncommon and widely spaced - we found only a few pairs and most of these around the ranch and in a gulley where the trees were large. Bonifacio shot a Ortalis vetula. In the afternoon we moved on to Rancho Acuilapa, 8.6 mi. SE

R.K. Selander,
1954

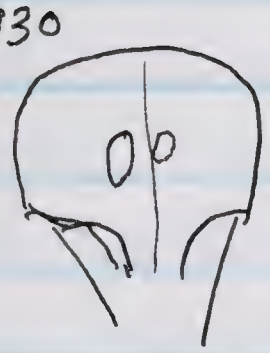
(Recorded)

C. nigricaudatus

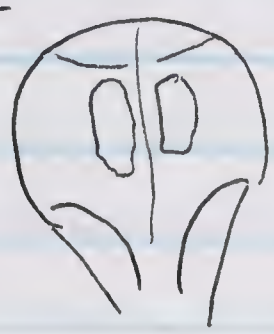
Conditions of Skull of C. nigricaudatus taken April 4

April 4

1930

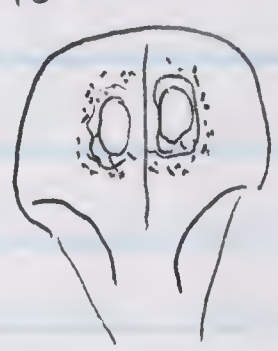


1932

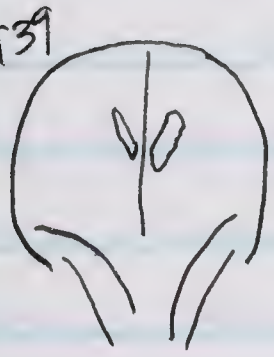


1934

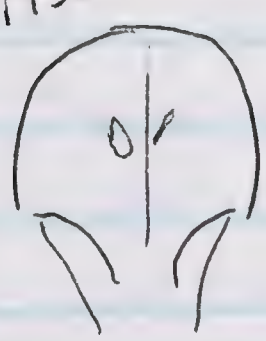
1936 [=1935?]



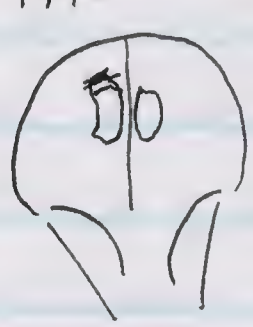
1939



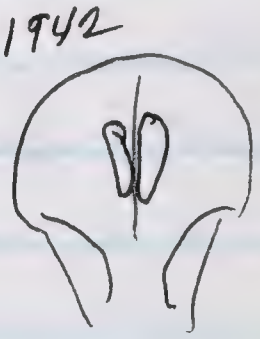
1938



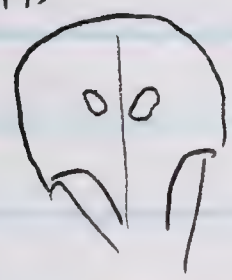
1940

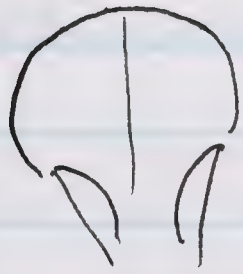


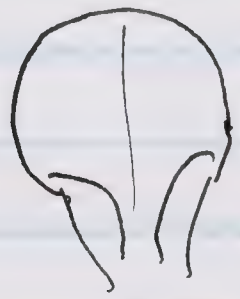
1942



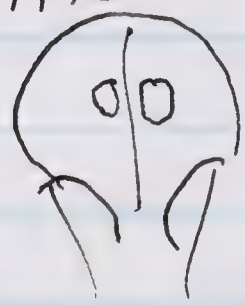
1943







1945



Rancho Ocuilapa, Chiapas

April 4 Tonalá, stopping at an old collecting spot 2 mi. SE Ocuilapa where we took 2 nigricaudatus from a group of three in a clump of trees near the road. The cut over area has been burned since our first visit and we found no other wrens. I imagine that we have now exterminated the small population living in the clumps of trees along the road. Between our 12.1 mi. camp and Ocuilapa the land is dry with few areas having suitable stands of trees for the wrens. Along the foothills is the dry, low, thorny deciduous forest almost certainly not suitable habitat. Noted no evidence of chiapensis in the valley.

At Ocuilapa we camped near the river. Heard one wren calling in the stand of mangos, guanocaste, and anates near the stream — which has a little water from springs.

April 5 In early morning I walked eastward towards the hills hunting. In streamside tangle of vines in proximity to large trees I found a lone bird (#1) which I heard singing "wet-do-it, wet-do-it" repeatedly. Also a variation "we-do-it" and another song "a-wet, a-wet, a-wet". No other individuals in the immediate area. Later on and a bit towards the hills I took a pair foraging 25 feet above the ground in a vine-tangled branch of a rather large tree. The foliage of tree and vine combined formed

K. Selander, 1954

C. nigricandatus 46

Rancho Ocuilapa, Chiapas

April 5 a thick mass of vegetation high above the ground. Toto-
poste trees nearby. As I approached the foothills
the trees had less leaves and the low deciduous
forest begins, In the gully there is a stand of big
trees but they were not in full leaf - probably same
species as along the stream but more deciduous.
I found no wrens in the deciduous forest —
very similar in many ways to more northern
deciduous vegetation. As I approached the
heavy stand of vegetation along the river and
around the rancho I found a bird carrying
nesting material to a nest in construction 18
feet up in a broad-leafed evergreen tree. Took
2 specimens (#4 & 5) and missed another. One of
the specimens I collected was gathering the nest-
ing fibers high in another neighboring tree and
flying to the nest. All birds seen to forage on
outer branches of this large tree - working along
the branches and picking off insects. Forage
notes - "quo-quo" given several in a series
and low in pitch. Some good semi-low thickets
nearby where the third bird flew after I fired at
it several times.

Later nearby the road I took a pair (6-7) in a
stand of small toto poste trees - an unusually
dry situation. I did not find wrens in several
similar situations visited and I assume that

K. Selander, 1954

C. nigricaudatus 47

Rancho Ocuilapa, Chiapas, México

April 5 this occurrence was unusual. Continued walking westerly towards the other side of the valley. The river winds across the valley & has some standing pools at this season. There is a rather rich growth of green trees & shrubs, with vines, along the river but the land just away from the banks is very dry and has been cleared to form grassy grazing areas for cattle. Wrens fairly common along the stream — Bonfoey had collected 10 along the stream and together we shot 2 more — giving a total of 18 for the day and I judge ½ or more of all the wrens in the area! Apparently Ocuilapa is a pocket where there is a considerable area of habitat enough to support perhaps 20 pairs or more of wrens. We found no chiapensis although I could see nothing wrong with the habitat available along the stream and around the rancho. Actually it is very similar to that around Tonala where the big wren is so abundant. On the foothills is a low deciduous forest and I do not believe that wrens occur there. Heard a song - week or two - a variation of the Pico-west

[illegible] í í

song of nigricaudatus. It was my distinct impression the range of variation in songs heard around Ocuilapa was greater than at Rancho Oreonez.

K. Selander, 1954

C. nigricandatus 48

Rancho Ocuilapa, Chiapas.

April 5 Some of the variations I scarcely recognized as those of the wrens. In any event the population is just about intermediate in characters between nigricandatus and humilis and shows nearly if not the full range of variation of the two forms.

Certain facts on nigricandatus:

① Apparently never frequents the ground.

② Invariably found foraging high in trees.

③ Sings from high portion of tree - usually on a bare branch - apparently in an exposed position.

④ Occurs in groups of more than 2 birds - but definitely more frequently in pairs (only) than chiapensis.

⑤ me-do-it song in similar in meter to the song of chiapensis.

⑥ Occasionally climbs vertical or near vertical trunks of trees as I have seen humilis do on palm trees.

⑦ Few nests seen and I suspect that acacia is not the preferred nesting tree or else we would have seen more nests on our hunts.

We left Ocuilapa (after taking a shot at a good-sized (7-8 feet) alligator ~~crocodile~~ near the river) and drove into Tonalá where we took a room at the Hotel Central and spent the remainder of the day preparing specimens.

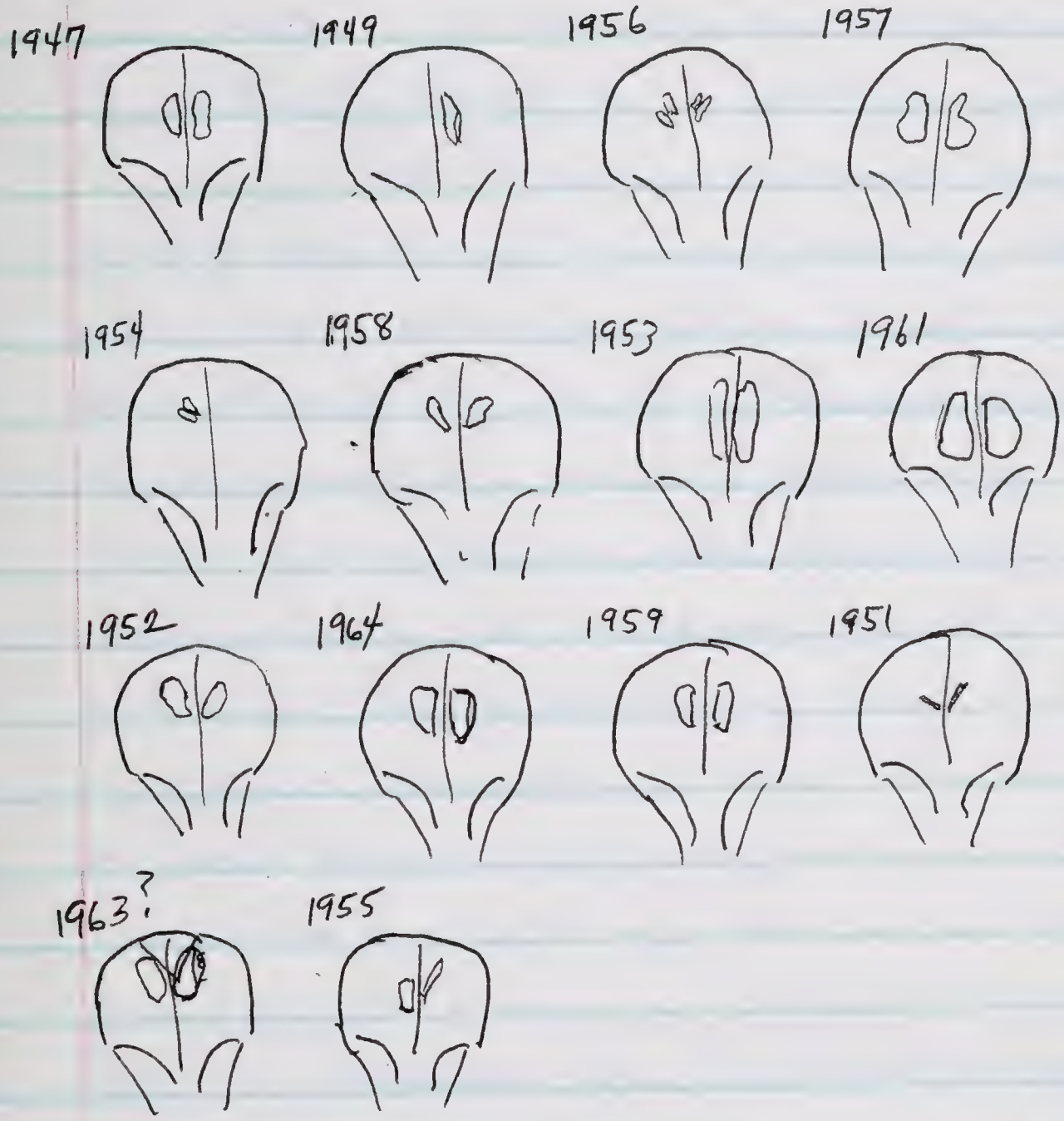
K. Selander
1954

Recorded

Condition of Skulls of nigricaudatus taken April 5

2-3 - a pair A, B, C, D, = groups

April 5 4-5 - a pair



C. nigricandatus

Rancho of El Presidente NW Tonalá, Chiapas

April 6 Heard chiapensis in large mango trees around the ranch house. We then walked toward and into the foothills which are just "back" of Tonalá. As you enter these foothills the large mango & other trees drop out and there is a low forest of deciduous trees and shrubs, most of them without leaves at the present time. Along the few small streams, however, there are longer trees ~~and~~ forming narrow stands of vegetation similar to that SSW of Tonalá. 100-~~200~~ feet up the vegetation fairly uniform —— a thick stand of bull-thorn acacia, another acacia, and several bushes with many small branches coming up from the base at ground level. There are a few totoposte trees in the gullys, and a few thinly leaved-trees of small size. We heard no wrens — noted ground pigeon (L. verreauxi), Calocitta formosa. This low deciduous forest extends to the limits of the city and in combination with city I cannot see how we can expect to find small wrens around Tonalá. Probably the close proximity of chiapensis to the foothills is a barrier to humilis so that only an occasional bird filters through to make contact with nigricandatus in the Ocuilapa valley.

Bonifacio identified the following trees in the deciduous forest — totoposte (a few), canelo (a large tree without leaves) and palo de ole. The forest is 10-15 feet high in most areas. Took several shots of the forest on Roll No. 99

Tonalá, Chiapas

April 6 and also a few shots on some roll around the Rancho where we heard chiapensis. Noted Thryothorus pleurostictus in the deciduous forest — Song: cheep (or chip), chip, chip, chip. Trill — not unlike a song sparrow but with four short opening notes. [Roll 8 has several shots around the Rancho Ocuilapa and Roll 7 is Ocuilapa and part 2 mi. SE Ocuilapa].

April 7 Worked along the Río Agua Dulce. Bonifacio hunted "above" the road along the river for a long distance and collected 13 nigricandatus × humilis. He saw no chiapensis. I walked about ⅓ mile "down" from the road along the river and found several pools of standing water in the several channels of the river. Rich vegetation along the stream — large amates and various trees and vines. (Took several black & white photographs of places where wrens occur). Nigricandatus type wrens were abundant along the river, occupying situations similar to those frequented by chiapensis. However, chiapensis was rare — I met it only about 3 times. About 9 feet up in an acacia two birds were "chasing" continuously together at a nest. I shot a ♂ nigricandatus (big bird) and a moment later shot a ♂ chiapensis in a bush a few feet away. I think that the chiapensis was at the nest with the other wren — perhaps a dispute — or attempt at mating! Later I heard two other

Río Agua Dulce

April 7 Groups of chiapensis calling — The surprising thing is that nigricandatus was occurring in what I judged to be exactly the same type of situation in which chiapensis was occurring. This will require further work but I am sure that there is little if any difference in habitat preference in the area in question. I noted no wrens (either species) in the dry fields back from the river. (see photos). Saw another ~~chi~~ nigricandatus nest placed 10 feet up in a knob from acacia in a clearing in a dense, rich stand of various bushes beneath and near large amate tree — a perfect situation for chiapensis I should think. One bird was seen to gather nesting fibers in the trees — not on the ground. Later I saw a group of wrens foraging in small trees beneath large ones — these small-leaved bushy trees are very similar in growth form to trees frequented by humilis at Pie de la Cuesta, Guerrero — may be the same tree. I noticed that the small wrens made much use of the large trees — flying often to them and foraging thru the branches. They almost invariably sing in a rather exposed position from a high branch or climb in a tree — often a tall amate. Saw one small wren climb a foot or so up a vertical tree trunk — Wood hewer style — then fly to ground for a moment and work its way up thru the branches of a tree.

Río Agua Dulce

April 7 Songs heard were various:

① da-da tweet, da-da-tweet, da-da-tweet
(I I, I I, I I)

heard several times.

② re-tweet, re-tweet, re-treat – fairly frequently.

③ Tres-pi cos

④ chip-a-wa, chip-a-wa, chip-a-wa – fast
(3, 3, 3)

⑤ Pico-tweet, etc.

Some bird then gave Pico-weet and then
(3)
Peak-o-wa → This quickly by two bird in unison, with a third joining in just at the last.

I believe that nigricaudatus and chiapensis are close in habitat requirements – although the former undoubtedly has a wider tolerance and is able to occupy brushy places such as near Rancho Oreonax and "above" Rancho Ocuilapa. However, when it hits Tonalá region only the rich vegetation is available & this is occupied by an abundant population of chiapensis – extremely abundant – probably filling all available areas suitable. A few birds push to 2.6 mi. SE where they occupy drier places along the road not frequented by chiapensis – but even so they are uncommon.

8 Río Agua Dulce

April 7 At about 2.6 mi. SE there is a rather sudden change to good dispersés habitat with abundant birds occupying every suitable area so that nigricandatus stops rather suddenly. — (Must show similarity of habitat between nigricandatus & dispersis to prove this point.) In other words the two compete & nigricandatus is excluded from the Tonalá region completely although it is able to push through the Ocuilapa Valley, crossing the drier portions & reaching abundance ~~in~~ to along the several small rivers where there is evergreen vegetation (this probably important) but of a less riche et tenerie sort suitable for good populations of dispersis. Nigricandatus perhaps is able to occupy smaller tree along the rivers than can dispersis. There seems little doubt that dispersis requires large tree — mates as mangos — this is evident at the edge of its range where it occurs around farms almost exclusively. The fact that the two are similar in color & markings makes sense if they have similar habitat tolerances. — probably both adapted to broad-leafed evergreen situations where there is considerable shade thrown by the large leaves — in other words rather dark situations where large patches of solid color would provide better concealment that a variegated & light pattern such as possessed by brimleyi.

Río Agua Dulce

April 7 Hemidactylus occurs in dry bushy deciduous vegetation where a solidly marked kind would be conspicuous - The multitude of twigs & twig branches of the vegetation of hemidactylus habitat ⇐ adapted to this is the patterned markings of hemidactylus - many dark & light areas dorsally & a brownish cast to the underparts with a few spots & tiny bars. I noted the camouflaging effect of the pattern and color of hemidactylus against a background of dry, bare branches & twigs — and possibly leaves on the ground although I doubt that hemidactylus frequents the ground to any great extent.

T. pleurostictus present along the river Agua Dulce but not too commonly.

The nigricaudatus has a wide range of habitat distribution is shown by its range in Guatemala & the situations I have seen it in — including the spots at La Pita and Ocuilapa. On the other hand it is almost possible to judge whether chiapensis will be present in a given place by the richness of the vegetation — ie presence of a large mango or other evergreen tree & presence of acacia & a large tangle of vines & smaller trees. Even within the Tonalá area proper the chiapensis seems is not common in the drier spots — such as near Paredon and close to Puerta Arista — but neither is nigricaudatus present. ——

Río Agua Dulce

April 7 My last theory demands that there is a good bit of ecological overlap & competition between nigricandatus and chiapensis. They are zonally separated at Escuinta according to Brodkorb and certainly they are absent wherever chiapensis is present in any numbers.

No letter from Brodkorb, 1954)

It will be important to determine whether humilis can occupy "rich" vegetation when chiapensis is not abundant. If this is true it would explain humilis' absence from Tonalá proper. If it can occupy habitat similar to that of chiapensis then may also be ecological competition between the two.

April 8 Rode out in the morning to the Río Los Lemones, 8 mi. NW Tonalá, after crossing a small dry stream 4 mi. NW. Parked car and hunted SW along the river.

NW Tonala

April 8 To a point about 4 miles NW Tonalá is uniformly low and deciduous. The tetoporte x guanacaste, and a few amates are about the only large trees at least in leaf. the vegetation is the same sculely type so common in the Isthmus of Tehuantepec region — It ends 4 mi. NW Tonala where it suddenly becomes richer with amates, mangos, palms, dense ~~de~~ hedges of trees covered with the Convolvulus-like, purple-flowered vines. The hedge rows are green & lush looking compared to farther out along the road. At the point where we worked the foothills are very close but the main mass of the sierras is far removed and a very low. It is low at Arriaga where the road passes up to Tuxtla. I do not know whether humilis is in the foothills but the vegetation is small trees rather openly spaced — same as on the foothills in the Ocuilapa valley and I don't think the small trees occur in it. In any case the tops of these hills are almost barren.

Thryothorus pleurostictus is commoner than anywhere else in the area and occurs in exactly the same spots as does humilis - but invariably it forages on the ground or at the base of bushes while humilis is in the ~~medium~~ middle portions of the small deciduous trees, in the ocoica, or on the branches of the guanacastes. I can see no diff -

NW Tonalá

April 8 A dry stream 2 mi. beyond Rio Amatillo.

~~Rio~~ Los Lemones, ¾ mi. NW Tonalá =
about ¾ mile down (SW) the river & found three birds
- apparently pure Hirundo in a spot along the river (no
water). Fair at them first foraging in small bare
- trees. They then flew across the river bed to a small
guanacaste only partly in leaf and into a mass
of vines near ~~boo~~ or large guanacaste & an amate.
Heard singing Look-hue, look-hue, look-hue
Saw one bird pick off a bunch of seeds with long
fibers & carry in bill for some distance but apparently
did not take them to nest.

T. pleurostictus common & singing in same bushes
he who chip!!! bill tea

with wrens. They hop over the ground searching under
leaves and on low branches. Wings constantly
flitting half or ½ open & shut, Abundant here..
Hirundo hops. Forages low & high in trees, especially
around trunks & dead or bare branches.

C. humilis

NW Tonala

① a-hue, a-hue, a-hue → pit-tui, pit tui, (Same song)

April 8

Two birds or groups sometimes answering one another — at least singing about the same time. Day overcast and little song at 9:30 A.M.

② a-meet, a-meet, or cha-meet, cha-meet — Common

who it, who-it, who it, who-it — Common

hant-haw ha-hasw- alarm notes

We-do-it, we-do-it

Te-chu-weet, etc.

cha-cha-waaa — after rain bit.

Tue-hat, tweet-het, twee hat → rapid triplet variation.

pi-tuit pit-hue, pit hue, pi-tue — plaint hawk song

a-weet, a-weet, a-weet

NW Tonalá

April 8

a-weet, 3x, hea-dait, hee-dait

Several near railroad bridge Be-jait, Be-jait, hee-jait given by a lone bird during pauses in foraging.
Photos 7-9 (Color Roll #10) show habitat of this wren.
Photos 1,2,3 show habitat of other group of wrens.
Photos 4,5,6 show the area, not necessarily good wren habitat.
Coming back to the car & heard dozens of wrens singing. They are not restricted to the streamside vegetation — rather they occur generally in the deciduous thickets and small trees — abundant apparently. No sign of Chiapensis.
Streamside floral elements include mulberries, totoposte, a very few anonates, guanacaste (mostly small) and numerous small bare trees & shrubs.
Calandria & white-winged & ground doves are abundant. Derby flycatchers less common than at Tonalá. Aimophila & Momotus mexicanus common. A few Aratinga. One pair of Cassicalus.
Later in the day the sun came out & but and wrens started singing. They were everywhere & very abundant — not limited to streamside but occurring throughout the area in the tangle of bare trees & shrubs. Much tall bare acacia — slender, poor looking trees — this a favorite spot for the wrens. My photographs will show habitat. The vegetation in this area and up

(Recorded)

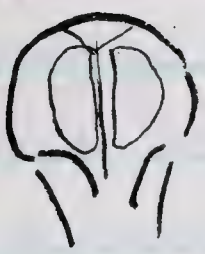
60b

C. hueniki

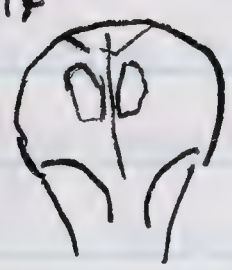
Condition of Skulls of C. hueniki taken April 8, 1954

April 8

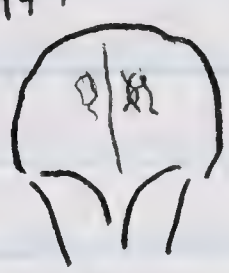
1992



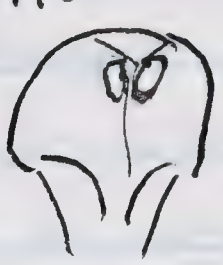
1994



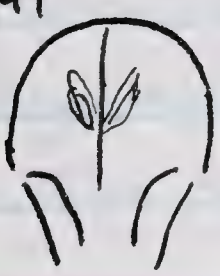
1997



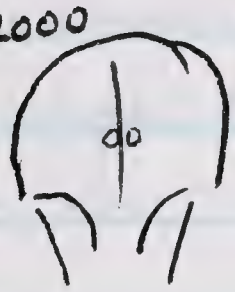
1998



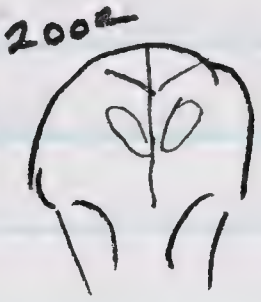
1999



2000



2002



NW Tonalá

April 8 scenes in general behavior between humilis and nigricandatus. The song is different, however. I have decided that the most commonly given song of humilis is a rapid Pe-coo, Pe-coo, Pe-coo - both notes of about equal value - although the latter is longer. Also heard a good deal was a triplet pe-tree-co pe-tree-co, etc.

We noted a difference in getting the head back thru the neck — in humilis the neck seems narrower. The plumage of humilis is more worn — possibly from more frequent contact with more branches & thorny vegetation. Tonalá apparently less well developed than those of recent nigricandatus we have examined. No evidence of chiapensis today — we were well beyond its limited range. Probably our locality 5.4 mi. NW is at the NW boundary of ~~the~~ the range of chiapensis.

April 9 Drove out NW to Río Tiltepec (erroneously called the Río Amatillo in previous notes and on the map). Just to the left of the road we stopped along the river and spent all day observing chiapensis and humilis (see large map). Found 3 pairs of humilis about a nest placed in a dead bull-horn acacia about 17 feet up (Rool 13-1 color). Carrying nesting material in the morning but not in the afternoon.

Río Tiltepec

April 9 The study area was located along the banks of the Río Tiltepec. Near the water there were large amates and back a bit the guanacaste & guamúchil were common — some of the former huge trees as were some of the amates. Back from this riparian growth there were narrow bands of ~~the~~ bull acacia and a shrubby tree — then in the cleared fields or burned over areas. Our study was confined to the riparian & immediately adjacent vegetation. Roll # 12 color shows various parts of the study area. No ~~amates~~ mangos present in the area.

Significant observations are as follows:

① Two pairs or groups of chiapensis were present in the area. One pair had a nest (see map) near the water in an acacia which was green. The nest was 9-10 feet above ground & was of the usual large size. Noted both birds carrying material which they picked up on the ground near the nest. Made several observations of this pair foraging in the vines and amates around the clearing. Bonnie watched this pair scratching in the leaves at the base of a big amates. On other occasions we saw the pair high in the amates — so they apparently forage at all levels — frequently on the ground — a thing which we have yet to see humilis do for any more than a moment or two. Several times both humilis and chiapensis were seen in the same ~~gua~~ amate foraging at the same

Río Tilstepec

April 9 time. Another time both species were together in the vines near the clearing. No signs of conflict the birds apparently don't notice one another. The sphere of activity of the pair of chiapensis centered around the nest and the circle of amates surrounding the clearing. I never saw them cross the stream into the drier, shorter vegetation of guamuchal trees where the 3 hemilus were working most of the time. Another group of chiapensis sang from the veg. station near the large burned area and we saw three birds in the tall tangle of vines adjacent. Twice I saw a lone bird in the dry tangle patch of acacia & shrubby trees near the tall guanacaste & vines, perhaps one of the birds of the second group. Hemilus occurred as follows:

1. 3 birds with nest in the area to the SE of the stream – foraging in guanacastes & guamuchas near the nest, in the patch of guamuchal in the stream bed and also passing at least twice over into the amates surrounding the clearing and into the adjacent vines – thus overlapping the area frequented by chiapensis. They foraged there for long periods – most of the time high in the amates – often on the outer-most twigs where they hung over like warblers and searched thru the leaves. At the times they hopped along the branches and very frequently they worked up vertical or bark-slanting tree-trunks, especially those of the

Hemidactylus - chiapensis

Río Tilteapec

April 9 guanacaste tree. They find areas where bark is diseased or infested & hang by their toes in all manner of positions — as frequently as not upside down as they probe the bark fragments. We watched two birds doing this on the trunk of the tall guanacaste + vines and for 10 minutes 2 birds worked up a vertical trunk of another guanacaste. The tail is not intentionally used as a prop but sometimes it serves the purpose. Often they seem to loose balance and start to fall downward but their feet are securely hooked into the bark so they swing upside down and continue probing. This feeding behavior is very similar to that of a nuthatch. — Very rarely they go to the ground although not too infrequently they may forage over small trunks of bushes $\frac{1}{2}$-1 foot above the ground. However, 90% of their feeding is done in the middle or higher portions of the vegetation and all places are frequented from vertical tree trunks to the outermost leaves in the tallest of the guanacastes or anates. They seem fond of medium sized or small trees with many or many small branches.

Thryothorus was common in the area and restricted to the ground or $\frac{1}{2}$-$1\frac{1}{2}$ feet above in denser parts of vegetation. In area of hemidactylus pair #1 I watched 2 hemidactylus foraging in a small tree about 2 feet above a pair of pleurotectus which was working on the ground. They are absolutely sympatric with hemidactylus

Humilis - chiapensis

Río Tilteper

April 9 in several spots in the study area but the strata difference is about 100% effective as humilis almost never descends to the ground while 95% of foraging of the Thryothorus is among ~~dead~~ leaves on the ground. The Thryothorus were singing continuously in the morning - Probably at least 4 pair in the study area and perhaps more.

Today's study shows that both humilis and chiapensis can live side by side. It also shows partial ecological separation in place of occurrence although there was a good deal of overlap in area frequented. Humilis was 3x as common as chiapensis and I think it significant that one pair of chiapensis was localized in the area having the largest group of trees - the anonas - with adjacent thick vines. This was a situation similar to Tonalá where large trees are present in meadows and where the hedge rows are fairly narrow but consist of large trees & thick vines. Apparently in Tonalá area proper there is no available habitat for humilis. Certainly our study today shows that humilis can occupy the same type of area as does chiapensis - although perhaps the smaller trees & thicker brushy areas are required also. Chiapensis is more restricted ecologically - it does not forage through small trees & on vertical trunks to anywhere near the extent that humilis does. The presence of large trees seems to be necessary for

Humilis - chiapensis

Río Tilitepec

April 9 chiapensis hunt me know that this is not the case with humilis.

Other birds in the area were:

Calocitta formosa - abundant - much more so than at Tonalá.

Social flycatcher - nest in BHA near stream.

Derby flycatcher - fairly common. nest in BHA

Squirrel cuckoo - several

Aratinga - a few passed thru

Thryothorus pleurostictus - common

3 species Kingfisher - Megaceryle alcyon was one.
Small one & large one like me took at Rancho Orcony = torquata,

Tiaogon citreolus - 2 pair?.

Becard - common

Pteleus pustulatus - common

Beardless flycatcher - few

Turkey vulture

Caracara

Spotted sandpiper 2

Northern waterthrush - 1

Yellow warbler - several

ground dove

a large dove - velvet

Crotophaga - common

Vireo sp. - common - migrant?

Hemidus - chiapensis

Ró Tilletepec

April 9 Songs of humulis.

① a harsh chit-chit-chit, etc is forage note.

② ha-wée-lit, ha-wée-lut -song

③ che-che-che-che, etc -several seconds - a very fast wobbling trill given frequently and by low bird with tail fanned out. The whole body vibrates with the trill - this is first time we have heard this song. Never heard nigricandatus give anything like this. Was the commonest song we heard today

④ 'ca-weet, 'ca-weet, 'ca-weet - given by one bird as another joined it after carrying nest material to the nest.

The trill song is very often preceded by a chatter of caws.

⑤ cha-cha-cha-chit - given softly twice by a bird just as a bird - hawk or some sort flew over, a warning note doubtless. No heard again.

In general all songs of humilis are given more rapidly than those of nigricandatus.

I heard several humilis songs from the low, dry vegetation back from the river and surrounding the cleared or burned over areas.

It may be that the formation of the clearing frequented by chiapensis allowed the species to move into

Rio Tilteper

April 9 the are by exposing ground and generally making a more open situation but this is a guess.

April 10 Took several photographs of hedgerow 1.3 mi. NW Tonalá - Roll #13 one of a chiapensis nest, another of the road & hedgerow near the nest. Just after this I took a photo of a small fox which Bonifacio shot. (only one found) Later in day I took 2 photos in the study area of the chiapensis nest showing a humilis nest in the background - and a shot of the humilis nest in a tall Bull-horn acacia. These are Nos. 9-10 on the roll.

We hunted about 1 hour along a hedgerow 1.3 mi. NW Tonalá. The row was formed of small trees and vines with a few medium sized granadeates. I saw 6 chiapensis in ~~two~~ one mile of st. Bonifacio hunted on the mountain side of the road and saw 6 chiapensis, two of which he collected. The hedge-row was about 12 feet - 15 feet wide along a ditch which was dry. Neighboring fields were dry grass with a few small trees widely spaced. Chiapensis centered about the ranch houses but I saw them in the hedgerows far from ranches - i.e. the nest was not near a ranch. Apparently the vegetation is so restricted in width that the birds require considerable lengths of hedgerow for foraging.

Humilis - chiapensis

NW Tonalá

April 10 At the study area along the Río Tiltepec I located another nest of humilis in a tall acacia up about 18-20 feet. just across the stream from the ~~boom~~ chiapensis nest. Saw one bird make repeated trips with nest material. Just before this I saw chiapensis in a neighboring tree - a few feet from the nest. Again saw chiapensis around the nest (pair #1) and in the amates. Noted Turdus grayi in the study area.

Photos of study area taken on April 9 -
Roll # 12

1. from car position looking down stream.
2. " " " at dry willow brush.
3. clump of vine & acacia down river from car.
4. between road & stream.
5. Clearing on right side of river
6. ~~end of study area~~ nest of chiapensis looking upstream
7. end of study area
8. thick vines near end of study area.
9. 2nd clearing on foot-path - good forage place of chiapensis.
10. burned area and view of hills.
11. guamuche & acacia near burned area.
12. guacaste & vines where humilis foraged.

Roll # 13

1. Habitat & nest area of humilis - group #1.

Humilis – chiapensis

Study area #1

April 10 Down stream from study area I hunted in a dense stand of BHA trees – up to 18 feet high mixed with a common bushy tree. Humilis was abundant in this habitat – a pair singing every 30-40 yds. A pair of chiapensis in same place & humilis. On other side of river humilis occurred but was less common in the good bushy tree growth there than in the stand of BHA. Pair of chiapensis noted ~~no~~ in a big amate.

The dense stands of BHA + bushy trees grow on sandy areas and flats adjacent to the river. This is best habitat yet for humilis — it seems to prefer this to more luxuriant vegetation.

Noted a string of pine trees on the very summit of the foot hill not far from the study area. The deciduous forest on this hill is made up of rather widely spaced trees and near the summit – below the pines, there are extensive bare areas.

Rain again today in Tonalá but it was clear a few miles to the NW.

Bonifacio shot 4 chiapensis downstream from the study area near a rancho and very close to where I found humilis so common in the stand of BHA.

Noted that the iris of humilis is less red than that of chiapensis & nigriscandatus.

½ mi. SW road along Rio Agua Dulce = Study Area # 2

April 11 The vegetation adjacent to the river at the study area is a ~~coarse~~ coarse grass savannah dotted with small deciduous trees mostly small and with short trunks and many branches leaving the trunk low down, some of these trees have leaves, the majority do not. I imagine that this vegetation type is similar to the low deciduous forest which occurs uniformly on the foothills, including the hill which comes down to the river in the spot where the riparian vegetation narrows so much. Ursus seem to be restricted to stream side vegetation,

I hunted up from the car to the area where I found chiapensis and nigricandatus-humilis on April 7 (see pencil diagram map). The stream divides in the area just adjacent to the hill. From the hill to the stream is about 200 yds. There is a growth of big anacles and guanacastes with a shrubby understory along both streams with the low deciduous trees widely spaced on both sides of the streams. There is a dry stream bed immediately adjacent to the hill covered with the low deciduous forest — a thick growth with no arena enbalming it. At the point of the hill the riparian vegetation narrows to 75 feet, widens a bit in the study area — then there is a long area where the riparian vegetation appears to have been cleared from the stream. Noted one nigricandatus bird in a rather dry spot near the point of the hill. Just down stream from the narrow point I found a

Study Area #2

april 11 pair of chiapensis foraging in leaves at the base of an amate. Watched them work over the base of the tree and in the large leaves on the ground. They flip leaves over ~~and pick~~ to get at insects — often then through them for ½ foot or so. This pair foraged at the base of the tree for 15 minutes then flew into the vines in the understory where they foraged a short time before flying across the stream to a guanacaste tree. About 40 yds down stream we found the nest of a pair of nigricandatus - humilis intermediates in an acacia between two amates (see map.). Later in the day we saw two pairs of nigricandatus-like birds and a pair of chiapensis together in a patch of vines just across the river from the nest. Collected one pair of the small wrens and Bonifacio collected three other small birds just downstream and across the stream from the car. I found a pair of chiapensis in a stand of guanacaste, amates, and vines across the river from the nest of the small wrens ~~but~~ with the nest. Hence at least two pairs each of the two species were present in our study area. We did not locate the range of the second pair of small wrens.

There was no sign of habitat differences between the large & small wrens in our study area. The map gives the impression that the groups replaced one another spacially but this is an over-simplification

Study Area #2

April 11 since only three pairs of wrens are shown - but there were more present - at least one more pair of small wrens. The small wren is much more common along the stream here than the large.

Noted a chachalaca at point where hike approaches the river. Bonifacio shot a duck hawk just down stream from the study area and said he saw another with the one he collected.

I noted two species of motmot in the study area - Momotus mexicanus and the small mot mot which we took in the Ocuilapa Valley. The latter species apparently doesn't occur closer in towards Tonala.

Song of small wren = a - where - cheer, etc.
3

Study Area #2

April 11

List of plants collected in study area:

11. Same as tree by car - also a common tree back from the river and elsewhere along the road. = Guazuma tomentosa

12. - = Randia sp.

13 - "Mulato" = Trichilia sp.

14 - 15 - 14 = Coccoloba sp. 15 - ?

16 - "Carea" — ?

17 - 19 17 = Inga spuria; 18 = Piscidia sp. 19. = Mimosaceae

20 - 29? } small trees back from the river and in adjacent fields and along the roads.

30 - 31 - Principle vines along the river. One probably is Ipomoea. 30. Stemmadenia obovata var. mollis 31. Ipomoea ?

List of photos taken in study area:

Roll #13

11. Looking W from car - Tonalá vegetation in background. 12. along road from car.

Roll #14

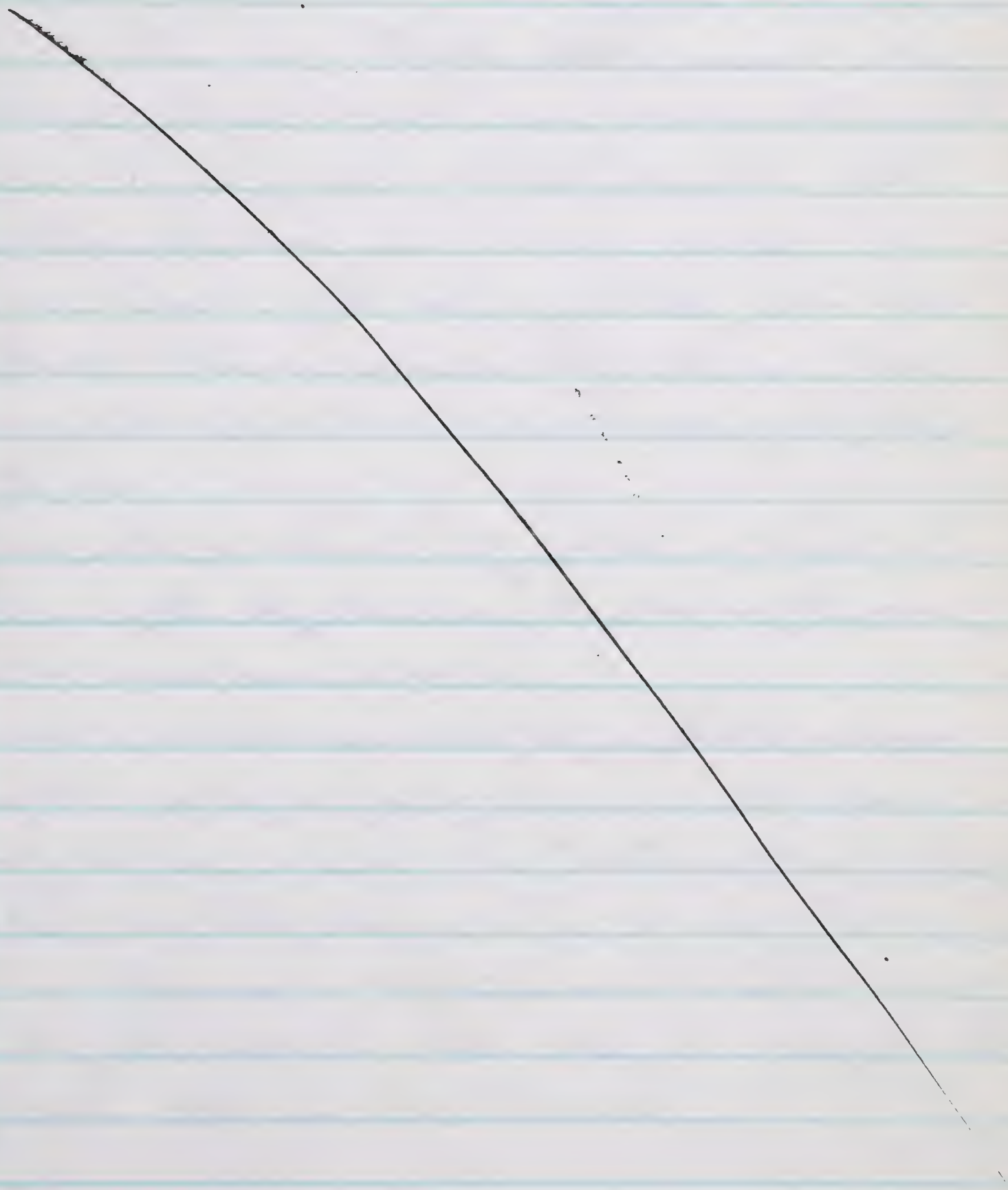
1. ~~Upstream~~ Looking along road to NW. 2. Nest situation of nigricaudatus. 3. N. nigricaudatus nesting area from across the stream. 4. Vines + tree across from nest where 2 pair nigricaudatus and pair of chiapensis foraged at sometime. 5. Looking across stream from alone tangle of vines: 6 Hill < hill-type vegetation. 7. View of old streambed 8. View across river to area where chiapensis foraged at base of trunk. 9. Vines and guanacaste just down from place where chiapensis foraged at base of

Plants forming an understory with the amates along the stream.

P. dulce
Verbenaceae
Cassia sp.
Malvaceus arboreus var. mexicanus
Serjania diversifolia
?
Ext. cyclocarpum
Pithecellobium hintonii
Pterocarpus

Study Area #2

April 11 anate trunk. 10. View upstream from anates where diaforsis foraged at base of trunk. 11. View upstream a bit where the riparian vegetation narrows. 12 — Typical veg. just a few (20-50) yds. back from stream — Car?



R. K. Selander,
1954

Tonalá to Tres Picos, Chiapas, México

April 12 On train to Tres Picos.

Heard a small Campylorhynchus sing a side of railroad where there is a dense stand of guamuche & guanacaste about ½ mi. from Town.

Along the Rio Sanatenco near town there is no big stand of riparian vegetation. Instead the guamuches extend up to the stream bed. The same forest of guamuche which occurs SE of Tonalá (beyond the river) occurs SW towards the ocean. Very rocky soil — distinctly drier than farther out toward the ocean where we were camped. This is a continuation of the ridge of foothills just in back of Tonalá. Extensive areas are being cleared. From the dry hills behind Tonalá the land slopes gently down to the SW.

(Should collect plants on the hill just behind Tonalá to determine if this dry deciduous forest is not the same as that which occurs SE of town.)

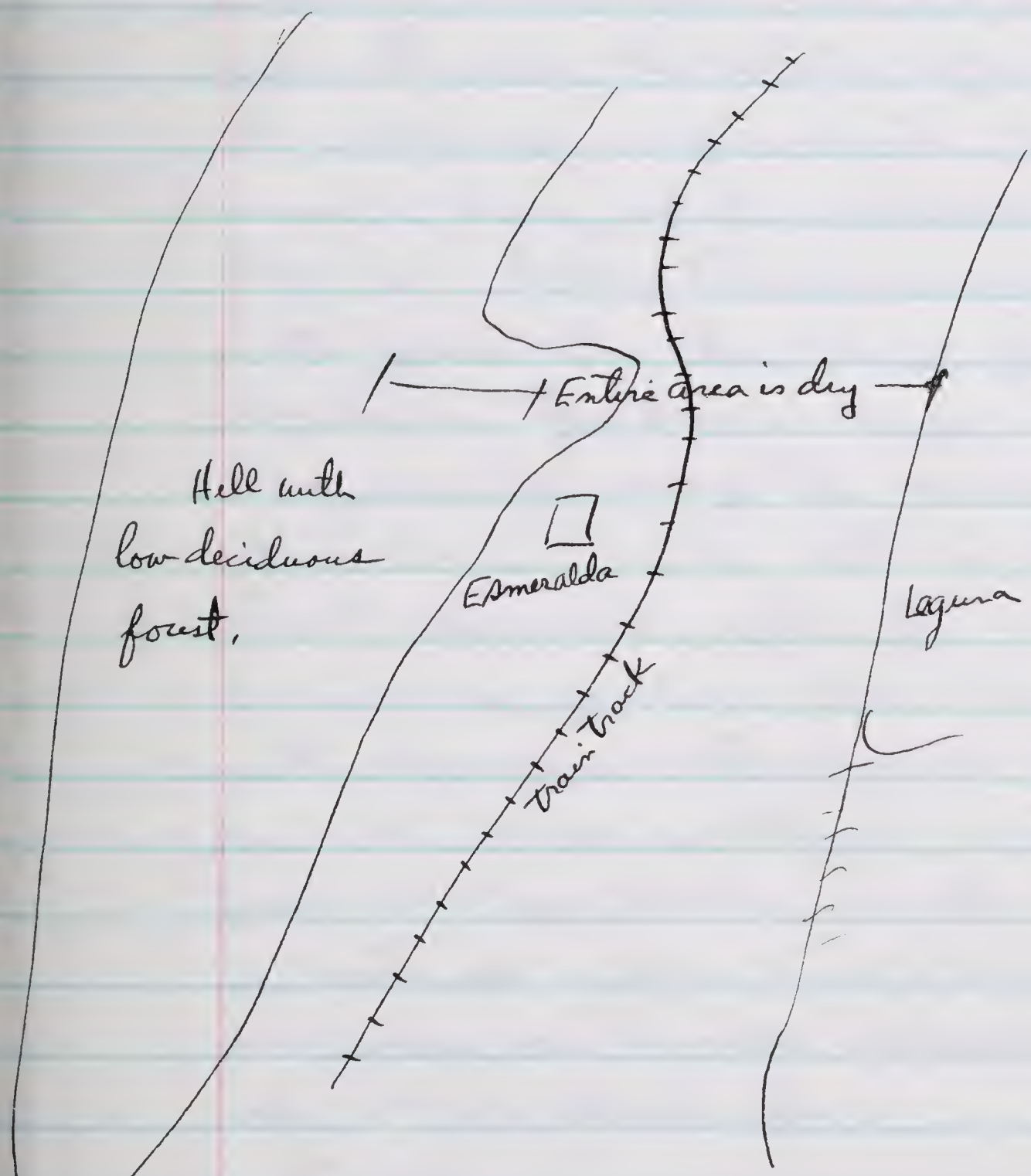
Tonalá is situated immediately adjacent to the ridge of low hills — & in fact part of the town is on the lower part of this ridge of hills. The Sanatenco flows fairly rapidly near town over an extremely rocky bed. Hence difference in vegetation near the hills and out on the flats nearer the ocean may be in part of result of edaphic differences in the two areas.

Tonalá to Tres Picos, Chiapas, México

April 12 The dry forest SE Tonalá is same as that back from Simojovel at study area #2.
In flatter land there is a savannah of big trees — this mostly on ocean-side of railroad track — then dry forest again but greener, richer than nearer Tonalá. Palms and amates, guanacastes around ranch houses. Much clearing of land adjacent to new road to Puerta Arista. Quetzalapa is not more than a mile or so from study area #12 — more like ¾ mile. Much clearing of bigger trees — whole fields cleared of all vegetation. Amates seem localized along old stream beds. Rio Agua Dulce was dry as we crossed. Poor riparian vegetation.
Good stand of big amates, guanacastes on right side of track — dry fields, small trees on the left beyond Quetzalapa.
Dry forest on hills as one nears the lagunas — same as near study area. Dry grassy hills with small trees adjacent to hills. Many semi-bare areas on hills — "good" development of vegetation in arroyos on hills only. Whole area is probably disturbed by grazing — much evidence of clearing.
Esmeralda is very near — ½ mile or less to the dry hills. More green trees here at the town — amates, guanacastes, etc. Similar to La Palma are the hills and adjacent fields.

Tonalá to Tres Picos, Chiapas, México

April 12 Beyond Esmeralda the whole flat land is dry with no large trees. The trail passes very close to the edge of the hills at one point — 2 blocks or so.



Tonalá to Tres Picos, Chiapas, México

April 12 Foreston hills is in leaf - but apparently just starting - Many totally bare elements. Flat land vegetation is the same I am sure. There is a low pass in the hills and the other large sandy hill is plainly visible. (our map seems correct so far.) this apparently where Río La Palka ~~to~~ passes. We crossed it - it was dry. A few amates, palms, guanacastes around the town, which is located immediately adjacent to the Río La Palka. The land surrounding the town is the typical low deciduous forest — this vegetation type seems uniform and extensive. Many small ~~mango~~ mango trees around houses. Much to topsoil on the hills in the deciduous forest vegetation, especially in arroyos. Large areas of decid. forest burned for farms in the lowlands — whole area probably has been cleared several times. Just beyond town hills come to within less than 2 blocks of the water ~~for~~ and for a mile or so there is no flatland as the hills approach the water edge 2-3-4 blocks deep.

R. K. Selander,
1954

Tonalá to Tres Picos, Chiapas, Mexico

April 12 If there is nigricandatus in the remaining dry forest – only a few pairs could be heard along some of the flows in the flats beyond La Polka. As the train turns the plain is a bit wider – ½ mile or so – the hills are very dry. A few big tabonas on the flats and shrubby second growth in fields where have been cleared of the low deciduous forest. Map is correct in Cerro Vernal area. At Cabaña the plain is perhaps 1 mile wide. Took picture #1 from Cabaña looking at Cerro Vernal. Some deciduous forest covers Cerro Vernal which is 2-3000 [~3032] feet high. Much evidence of clearing around Cabaña. Fair stand of large tabonas, Guanacaste and amate in a small patch beyond town of Cabaña near foot of hills. A mile or so beyond town plain narrows to 1 block! All here has been farmed. Guanacastes and a few higueronates beyond this tip of the hills. Tabonas & amates form little pockets where wrens could occur – a few pair in each perhaps – Small low palms on hill before Mayaras

Tonalá to Tres Picos, Chiapas, México

April 12 as hill comes to water's edge!! Dry and rocky hill with nothing much more than the small dry palms. Just around point plain broadens a little - getting a few to to poste x guanacaste, annates, small trees in cultivated area before town of Mojarras. Much burning and clearing here. Mangos at Mojarras. Plain is less than 1 block at Mojarras but near by and a bit beyond it widens a bit. I can see where there is habitat around the houses for a few pairs of small wrens and maybe the riparian vegetation is good habitat — it should be. (Bonifacio says ceiba, primavera, lemonillo on the plain near town). Also guamuche - much. Plain narrows to a few yds beyond town about 1½ mile — ~~then no left hills behind~~. Stand of palms just beyond narrow point — Big fan types. To to poste - dry deciduous forest on hills — same as around Tuxtla. Tonalá

Fan palms, to to poste on the flats — Big to to poste trees. Palms growing in cleared areas. A forest of fan palms - tall.

R.K. Selander,
1954

Tonalá to Tres Picos, Chiapas, México.

April 12 At Andrea the plain is 2 or so miles wide Much toloposte - big trees + other green trees — similar to SE of Tonalá and probably good wren habitat. Vines along roads forming hedge-rows. Guamuche trees of good size. Many avocado trees - Undoubtedly wren habitat — a considerable area. Big guanocaste, guamuche trees + much large toloposte - Very thicket-like near railroad track. Area has been cleared and large trees left standing - especially the very tall toloposte. Small trees are same as those in study area # 2. A few miles beyond Andrea the dry hill topography to our end. Whole plain is disturbed by clearing for farming.

At Tres Picos the situation is similar to that around Tonalá — The main mass the the Sierra Madre is at a distance of several miles, then is a ridge of dry hills adjacent and then a flat plain covered with big trees, hedgerows, meadows, etc. — very similar in appearance to Tonalá — perhaps a bit drier. Noted fields of sugar cane and some large patches of banana trees — these not common around Tonalá. One man we questioned said both types of wren — nigricandatus and chiapensis occurred around the town. He undoubtedly knew these birds since he described them accurately. I was unable to determine how far it is from the town to the coast but it is several

Tres Picos, Chiapas, México

April 12 miles at least I should judge. I ~~remember~~ remember that Irby Davis mentioned the presence of chiapensis and nigricandatus at Tres Picos. It would be very strange if chiapensis did not occur here — the large trees all considered. What the distributional situation is with chiapensis and nigricandatus we did not determine as we were able to hunt for only 20 minutes before catching the Tapachula-Tonala train back to Tonala. Just before we entered Tres Picos we crossed a wide, dry river bed — probably the Rio Oreonez ?? Nigricandatus would have a good path for dispersal to the Ocuilapa Valley along this river from the Tres Picos region. Certainly the main avenue of dispersal is through this valley and not along the narrow plain adjacent to the laguna.

Took several black & white photos of Tres Picos region — Black & White Roll #15.

nr. Quetzaltepec

April 13 Plants collected at railroad track collecting area:

33. Common Amate of "Tonalá Veg." = Ficus radula
34. Tree of Tonalá veg – at edge anyway Tabebuia pentaphylla
35. Common vine in amate – Cydanthera pubescens
36. Understory tree beneath amates at streamside = Piper sp.
37. Tree with gourd fruit – same as near our camp.
38 Small bush in fields near river — Crescentia cujete
39 " " " " " — Solanum torvum
40 " " " " " — Cordia dentata
— Papilionaceae

Photos:

Roll #15 – a few, mostly wrong exposure.
Roll #16 – Color – ~~5~~ 7 shots of typical chiapenses habitat and one looking across track to dry hills.

The dry forest meets the "Tonalá Vegetation in a sharp line of division at the railroad track. I saw one nigricandatus in a small tree just over the tracks at the banks of the Río Agua Dulce. Across the river in an amate a pair of big wrens were singing. Bonifacio hunted in the "Tonalá Veg." and up to the dry hills for 2 hours, taking 2 small wrens – one in a guanacaste tree near the river and another in small dry tree on the other side of the tracks. He reported seeing no wrens at the base of the hills. The big wren is abundant in the amates on the SW side of the

nr. Quetzalapa

April 13 tracks. In general old stream beds there are giant amates and the main stream bed meanders through the area. Many cattle grazing. There is very little understory beneath the amates and the amate is the chief tree near the river = non-stands of small trees or guamuchs.

Roll 16- #9-10 river bed = #9 habitat of a pair of chiapensis (which we shot), 10 shows place where I saw a lone nigricaudatus. #11-12 show views from new road to opening of valley - 11 where hill approaches river, #12 a little more N.

Plants 41-50 are typical dry, low trees in the 2.6 mi. SE area and up to the town.

~~April 13~~ Skinned few birds in morning. In afternoon packed truck and moved out to Study Area #1, 4.4 mi. NW Tonalá where we camped for the night. Screech owls calling in night.

April 14 The place where we found a nest of chiapensis early in our visit is located 1 mi. NW Tonalá in fairly typical chiapensis-type country. The hedgerow where Bonifacio and I worked several days ago is at 1.3 mi. Study Area #1 on the Río Tiltepec is 4.4 mi. NW Tonalá. At the Study Area we collected 7 humilis and 1 lig wren. In the night we attempted to capture the lig wrens which have a nest in the study area - only a single bird was in the nest at 10:00 P.M. — We then drove on towards Arriaga. The good Tonalá vegetation

Tonalá to Arriaga

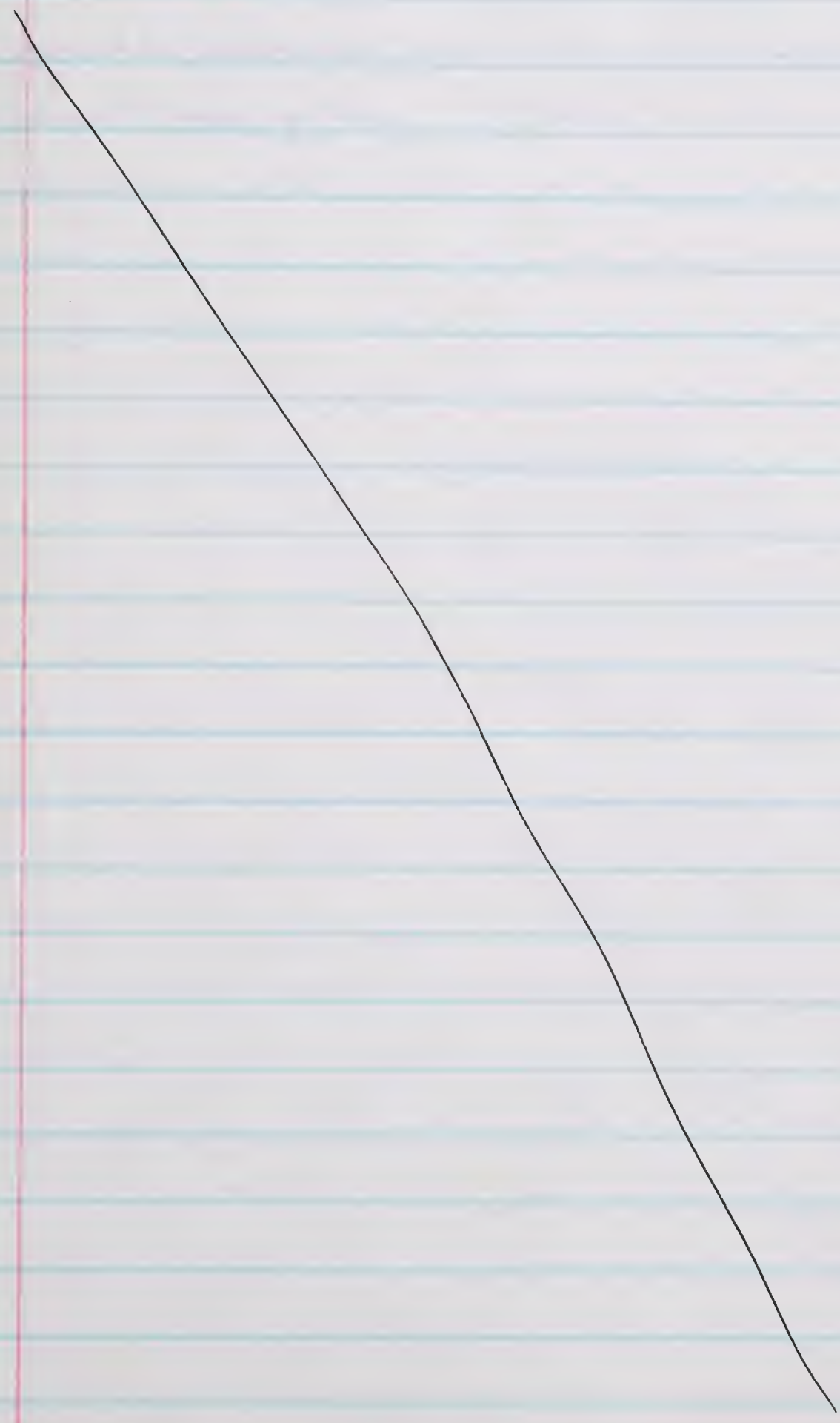
April 14 ends at about 3.5 - 4 mi. NW Tonalá. 5.3 mi. NW the dirt road takes off to the place where we found chiapensis and humilis together early in the trip. at 6.6 mi. a big dry stream crosses the highway — totoposte is dominant tree along stream. We heard the song of humilis here. at 9 mi. NW we stopped at the rancho Juan and I walked up on the dry hill which is close to the road and collected a set of typical plants. I found an singing wren in the understory beneath guanacaste trees in an arroyo at the base of the hill. The bird sang several variations — Put-cha-weet, etc. — Pi-twi, ~~pit~~ pi-twi, etc., and twe-doit, twe-doit. I saw no wrens on the hill where the is a dry forest from 10 - 40 feet high. Half or more of the tree are totally deciduous. A few others such as the totoposte (brush-like) are in leaf. On the hills the trees are rather widely spaced but in arroyos the vegetation is dense. There is only a single stratum of vegetation. Only bird seen was white-winged dove. Some BHA. This "forest" may be OK for humilis when the trees are in leaf but there are no wrens in it at this time of year. Noted clusters of grapes on a peculiar vine. Some of the elements are the same as found down on the plain but they are smaller in the mountain and some of them are semi-deciduous. Some elements

Tonalá to Arriaga

April 14 are just leafing out. Bonifacio collected two humilis in patches of totoposte + understory in grassy savannah - not too good habitat apparently. Took ~~photo~~ photos 1-5 of Color Roll #17 from the car - one showing hills where I collected plants. At 10.9 the river crosses the road where we parked the car last week and cooked our chachalacas - worms heard here then. At 11.9 is the dry river where we collected humilis last week and where I was lost. This river lacks big-tree riparian growth but has a wide sandy flood plain area where there are dense thickets of deciduous + evergreen trees and bushes. At 14.3 we stopped at another dry stream and found humilis abundant in dense stands of bushes, trees + deciduous vines along the sandy borders back from the stream bed. Guamuchil + acacia were common, along with bushy totoposte and several other dry small trees similar to those back from stream in the Study Area #1. A pair of humilis found every 40 yds. or so. Nests high in BHA. Photos 6-10 Color Roll #17 show this habitat. I collected several of the dominant plants. The tree which is so common SE Tonalá is common here also. Drove into Arriaga and stayed at a hotel where we skinned our specimens.

Plants Collected

April 15 The gap in the Sierras at Arriaga is probably responsible for the continuation of the dry lower deciduous forest of the Isthmus region down to a point a few miles towards Tonalá.



C. humilis

10 mi. NW Tapanatepec, Oaxaca.

May 1 Hunted about ¾ hr. along a dry streambed in vegetation almost identical to that at our last stop for humilis near Arriaga. The thin agave like plant was common — also guamuchas a guamuchas, the latter a dominant form. Heard one song but unable to locate bird. My not finding wrens probably due to time of day (3 P.M.) — see beyond.

C. humilis

Río Ostuta, 6 mi. W Zanatepec, Oaxaca

May 2 Good

Song: given from 25 feet up in a small amate.
wa-heet, wa-heet, wa-heet

Nest 10 feet up in BHA at edge of path just about 15 feet from a line of small amates. 2 birds present, one carried material to nest, worked on nest a while then flew → me-do-it, me-do-it or meet-do-it, 3 or 4 times — other bird up river answered. Second bird of pair at nest. May start wa-heet song & change to the other. Foraging 30 feet up in a guamuche. Only one bird singing at a time — repeating meet-do-it three or 4 times. Melodious song. More like meet-do-it than a triplet — intermediate between two. Singing repeatedly at 8:15 — Only one bird singing. Social flycatcher present — also aratinga in trees. The wa-heet song gains in volume as it progresses.

As two birds flew to perch they gave a dull chirping trill. Turdus grayi common in some habitat as wren.

a-meeheet — given by same bird as above — song lasting several seconds. May change to me-do-it song in middle of the above song. — very fast - faster than others

C. humilis

Río Ostuta, 6 mi. W Zanatepec

May 2 we-do. it is commonest variation of song,
ah-wet song is similar to we-do-et - without the second syllable.
Hone a series of chit or shez - nasal notes. Also while a pair collected the pair observed (#1) - ♀ shows beginnings of a brood-patch. This pair ranged into a fair-sized guamuchil near the nest.
Just after collecting the two birds (#1) which were together & obviously paired - I heard another sing in the same tree - a guamuchil - about 25 feet up. It answered my imitations of its call. Collected it (#2). May have been a bird from an adjacent pair of group?. In any case I had not seen it before while watching the pair.

Nest in BHA 20 feet up. Single nest. Pair present. I shot ♂ which was singing. ♀ went to nest - I tapped nest and she flew out, perched, and gave a trill, quite long.

Later, I found humilis fairly common in a dry low stand of acacia (BH & others) and a guamuchil like short tree. This stand was along the river & a dry draw but well back from the water. This vegetation is same as that near Arriaga where we hunted along the last river near town - also similar to Acapulco vegetation where this wren occurs.

C. humilis

Río Guamal, 8mi. E Nilteper

May 2 Wrens singing commonly in the afternoon. Often heard one sing while the other of the pair trilled. We are located along a dry sandy river bed 30 yds. wide. There is a line of big guamacaste trees along the river bed with a open understory of the type at Rio Agua Dulce but more open (see Lizard, plants collected). ~~Where~~ Wrens occur in the understory and in patches of low vegetation in areas where no large trees are present.

Color of legs & feet of specimens today ranged from dull blue-slate to slate with a lilac-ish green cast. Several specimens were moderately fat, especially in the interclavicular area.

Local name: Pocholito.

May 3 Photos in Color:

6. "Spina" with guamúchil in background a bit taller. C. humilis here. Plants B-1, B-2 are there.
7. View across road showing good habitat & "Spina", BHA, & guamúcha.
8. Nest in BHA 10 feet up. B-3 plant

Photos + Plants →

B-4 small bush 2 feet high beneath spinas — not collected

B-5 other spina

B-6 - dry tree 25-30 feet along road.

B-1 is dominant tree in the region.

In addition a tree called "pajaro no" is common some places a there are a

B-7 - short bushy tree — short, poor looking tetapostes.

B-8 - "Madre de Agua" - giant riparian tree ī guanacaste

B-9 - Riparian understory - "lumbricerro"

~~B-10 in river bed shrubby~~

Photo 10 - river bed near camp 7 May 3 - Rio Guamal.

Photo 11 - taken just w Niltepec — forest thicker here with a few cardone-type cacti - Forest from Rio Guamal, which is 14 mi. E Niltepec - not 8 as in notes — is about same to Niltepec

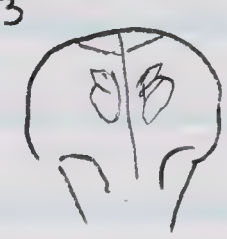
C. luminosus

May 2-3 - C luminosus - Condition of skull

May 3

2150

2153



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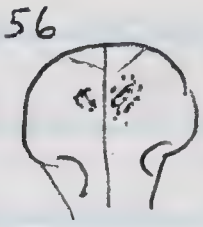

just about finished

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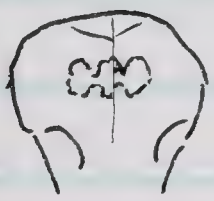

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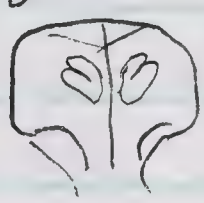

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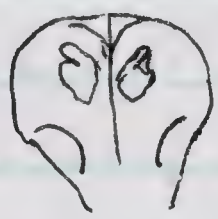


May 3 Collected 19 wrens near camp on the Río Guamal, 14 miles E Nitepec, 38 m. None were in breeding condition but several were seen carrying material to nests. I found only pairs & possibly one trio. These birds don't occur in large groups - rather pairs are evenly spaced and only a single nest is built. I saw no situations where 2 or more nests were present. Nests invariably in Bull-horn acacia - mostly 10 feet up or more in crotches. Nests measure ± 10 × 8" - very small and little if any tunnel — several nests seen looked unfinished. One bird I took today was carrying plant "wool".

As at Study Area #2 near Tonalá - the wrens occur in the riparian vegetation such as guamacoster but they reach abundance in the acacia - guamuche stands on sandy ground well back from the river. Certainly the riparian situation is not the central habitat. I found wrens in abundance in almost pure stands of small acacia - Mimosa - small guamuche - and

A. humilis

Río Huamol, 14 mi. E Nilteper, Oaxaca

May 3 "pajaro vovo" tree (similar to guamuchil in leaf shape & form) — the drier the better and in some spots only the acacia was present. No nests in other than BHA. They were only sparse along the river in the more luxuriant vegetation there — madre de agua & guanacaste trees, larger guamuchiles, and an understory of the common evergreen & fairly large (25-30 feet) acacia & mimosa trees with good sized trunks & lacombea. Probably common over most of Tehuacan — but I think not in pure thorny, woody brush forest. In some places the vegetation along the road is similar to near the laguna Cuyuca in Guerrero. Ecological situation near camp and at Río Ostuta (where again there were few trees actually along the river in riparian situation and much more in drier areas) is very similar to that from Arriaga to Tonala — perhaps more pure stands of acacia but very similar — some places along the Río Agua Dulce are similar also.

Thus humilis is a kind of dry, deciduous acacia-guamuchil forest and not riparian as I had thought.

Foraging is in mid & high levels. Thryothorus pleurostictus is abundant — about equal to humilis — in same area and in places where there is a dense low thicket. I saw both species in exactly the same spots — but never does pleurostictus get

C. humilis

Río Guamol, 14 mi. E Niltepec, Oaxaca

May 3 more than 2ft. or so above the ground. Very few other birds in the area - few Turdus grayi, many Polioptila (black capped-type), Icterus gularis & pustulatus, T. pleurostictus, social flycatcher, Kiskadee - fairly common, Vireo olivaceus, Yellow warbler, small flycatcher - Empidonax, longer Myiarchus flycatcher - a small species - bill longer than nuttingi -, Calcutta, More or less riparian - Cassicalus melanicterus (common), Nomatus mexicanus, Ortalis vetula, grackle, Otus sp. Amazona albifrons, Crotophaga (common & in wren habitat), Pygmy owl, road side hawk, Chordeiles acutipennis, Nyctidromus (in wren habitat).

I believe the ♀ wren gives the trill much more often than the ♂. Probably ♀ trills while ♂ sings when they duet. Only heard single birds singing today — "chic-weet!" or "tweo-weet" exclusively - probably the ♂. Have not heard two birds sing this together but have heard one sing while other trills. When bird flies it spreads tail before landing and it is conspicuous - pairs seen to stay close when moving and sometimes posture with tail spread - usually duet in this position. Singing continues most of day but drops off around noon. Will answer imitations.

Seems to be "normal" set-up with pairs evenly spaced in the habitat & working on single nests — a very different situation compared to [redacted] chiapensis.

C. humilis

Río Grande, 14 mi. E Nilteped, Oaxaca

May 3 I believe that humilis occurs more often singly in pairs than does nigricandatus - but then it is late in the year now & possibly groups have broken up and pairs are establishing themselves - this might account for unfinished nests.

May 4 Wren singing outside hotel in Tehuantepec - Zla-tweet.

6.5 and 5 mi. E Tequisistlan, ±1000 ft., Oaxaca - These areas are probably as common in the cactus - deciduous tree forest as in the lowlands of Tehuantepec. A large arborescens cactus, 15-25 feet, and a thin-jointed tuna type are very common. The latter grows to about 7-8 feet high. There are a variety of deciduous trees, most of which have no flowers or leaves. The thin agave-like plant is common beneath the larger cacti and trees. The small evergreen shrub which occurred at the Río Grande is a small tree here.

May 5 May 5-1 is common large deciduous tree - tallest plants in the area. - no leaves.

trees → May 5-2 is a small tree

→ May 5-3,4 are common trees (small) - The smaller leaved one is bigger tree in the forest, the other was along the road & held a nest about 9 feet up composed of small twigs & plant fiber in front of May 5-1 tree.

Nest

May 5-5 is a common broad-leaf tree.

There is also an ephedra-like plant here - about 2-3 feet. Ground is well cleared - many cattle grazing here.

C. humilis

6.5 mi. E Tequisistlan

May 5 Pair gathering nest material - fiber & fruit ♂ May 5 - 1 plant. Their nest was placed about 9 feet up in a mimosa? near the road where there is a narrow border of these plants. Apparently only the male sings the song, with tail fanned & head up, while ♀ trills. Only heard trill from ♀. She will give this in answer to imitation of ♂ call after mail has been shot.

Foraging spots - in flowers of the large cactus - common. On arm of large cactus, on branches and about flowers of largest tree. In other deciduous trees.

Saw ♀ take dust bath on ground.

Other birds in same vegetation: Contopus pertinax, black-capped-type gnatcatcher (abundant), Calocitta formosa, Amazona albifrons, Centurus sp. (common), Myiarchus sp. (small, common). Few few other spp. Wrens hop along branches.

Heard one lone ♂ giving a soft song, apparently looking for mate (?).

Pairs evenly spaced - suggests territoriality. Pairs more together - very little singing. When ♂ sings ♀ trills. Nest we saw today was unfinished, just a bowl of little twigs filled with plant down.

No Phrygothorus here.

Saw one bird peck at closed cactus flower.

Heard both two & three syllable songs but 2 is more common. Once heard two birds duet 2 note song - may have been ♂ & ♀.

Plants collected at El Camaron, Rio Tehuantepec

May 3 - 6 nest tree
May 3 - 7 common tree - wrens foraging in it.

Plants 16 miles before Totolapan - habitat of C. humilis.

May 3 - 8 - common, ~~along~~ just down from road where I hunted and where wrens occurred.

May 3 9 - 12 - other plants in narrow valley, mostly near the river.

K. Selander,
1954

Campylorhynchus brunneicapillus

Irapuato to Mexico, D.F.

March 14 Noted patches of habitat (tuna cactus formation) all along road from Irapuato to San Juan del Rio. Originally whole valley was covered with the tuna - cholla - mesquite formation but 95% of the lowland is now in agriculture. Made a stop around noon at a point 7 mi. E Queretaro, 5970 ft., Queretaro in a good hillside slope of tuna and cholla cactus. Cactus wrens were common — we heard them calling as we drove off the road. I found a nest with three fresh eggs placed in a cholla about 4½ feet from the ground. Nest was in good condition and was lined with contour feathers of various birds + the cottony seeds [redacted] of some plant. The lining of the nest was less dense and thick than that of nests seen in Durango. Took photo of this nest and of the eggs. I did not collect either bird of the pair I saw near this nest, but I took a bird about 30 yds away in a tuna cactus. This individual was carrying several pieces of dry grass — very fine. Only one nest was in the cholla ~~bearing the eggs~~ mentioned above but I found two other smaller nests in cholla about 25-30 yds away. I examined 5 or 6 well-built nests in the area without finding other eggs. All four specimens collected appear not to have reached breeding condition (see specimens examined). Bonnie watched a bird sing several times from the top of a cholla and a tuna cactus near the car. The bird appeared

2-6, 7

R. K. Selander,
1954

C. brunneicapillus

7 mi. E Queretaro, 5970 ft., Queretaro, Mexico

March 14 not to be concerned with the presence of the truck about 40 feet or less from his position. It sang with bill pointed upward at an angle. Bonnie described a soft sound made by the wren between the loud "gua-gua-gua-gua-" song. The throat is puffed out when the bird sings. I watched this same bird sing from the top of a tuna (±12 feet) — the tail was held only slightly below the horizontal and the bill was pointed upward only slightly. — I should judge that there was a pair of wrens every 30 or 40 yds apart in the stand of cactus. They were quite wary although not so much as were birds of this species observed in Baja Calif. in February, 1953. In flight the white tips of the tail are conspicuous, especially when the bird swoops up to alight on a cactus. The calls heard today were a bit higher pitched than calls of couesi or bryanti. I believe that the difference is slight if it exists at all. The only sounds heard from wrens today were the "gua-gua-gua" call — given with an increase in tempo at the end of a series. Flights were short and always just a few feet above the ground. The birds tended more or less to remain together in pairs, even when disturbed. Other birds noted associated with the cactus wrens were Pipilo fuscus, mockingbird, house finch, mourning dove, dark sparrow, and vermilion flycatcher.

In skinning the 4 birds I noted that one, which

R. K. Selander,
1954

C. brunneicapillus

7 mi. E Queretaro, 5970 ft., Queretaro, México

March 14 obviously is first-year on basis of plumage, had a brown eye rather than the full red-brown eye of adults. Apparently the iris may not reach the adult condition until very late. This individual was a female showing a somewhat enlarged ovary - there was no brood-patch but the sparseness of feathers on the belly may have been an sign of the development of a patch.

Three types of cactus were present in the area - the large tuna, a fair-sized cholla, and, rarely, a candelabra type (see photos). Some bushes and trees present but without leaves at this time of year. Appears to be optimum Cactus wren habitat to judge from this abundance here.

E. K. Selander,
1954

C. jocosus

10 mi. SE Acatlan, ± 3980 ft., Puebla, México

March 16 A flock of ± 6-10 birds crossed the highway as we stopped to take a picture of an agave in bloom. The birds came from a rather steep slope, crossed the road and went up an arroyo. They appeared to be moving in a loose formation. Calls were given frequently — a fast "cha-cha-cha-cha-" something like a high pitched C. brunneicapillus. They flew through the higher parts of the ~~bus~~ trees and onto the larger candleabra cacti, & attempted to follow the flock but lost it before getting a chance to collect specimens. Apparently the breeding season hasn't started. We noted a nest placed about ~~2~~ 7 feet above the ground in a thorny bush. The nest was old and lacked a lining but it probably was a cactus wren that of. Along the road in the cactus forest we noted several other nests, the size and shape of a cactus wren's nest.

R.K. Selander,
1954

Campylorhynchus jocosus

Km. 335, 9 mi. WNW Huajuapan de León, 5500 ft., Oaxaca, Méx.

May 6 About 5:30 P.M. we found a group in a stand of low fan palms & a thorny tree. When I first saw the birds there were 3 or 4 associated in a loose flock — We may have disturbed them. There were numerous nests in the area — We pulled down at least 12 looking for eggs after we found one of the # birds I collected had a brood patch.

Apparently presence of trees of more than 10 feet or so is necessary for the wrens as we did not find them in a stand of similar vegetation where the trees were only a few feet high.

After pulling down a nest we noted a lone bird return to the tree & perch near spot nest had been. On another occasion a lone bird flew from a nest we pulled down — no eggs. The wrens enter the nest about ½ hour before dark but it was cloudy and rained just ~~at~~ the sun went down.

9 mi. NNW Huajuapan de Leon, Oaxaca

May 7 | Pair foraging in spiny tree. When they move together, one bird gives a fast che-che-che-che as they alight, at the same time fanning tail a bit and spreading wings. Both birds seem to give soft che-che-de-de-dt - a soft nasal note. Note of the one bird (♂?) is louder and higher (sounding similar to call call of sparrow hawk). Hear long song chwe-chwe-~~teheu~~ chwe-chwe- — just like a soft call of Lurocincapillus. When one bird gave this another a some distance answered. Foraging from bottom of trunk up to top of tree (10-15 ft) hopping up vertical trunk, hanging upside down — very similar to Chamaeli.

last to 5:37 see.

Sopt. ta-wa-et, ta wa-et — Then same bird gone

cactus area call: a-chung-a chung-a-chung = other call

Nos 1 - two birds alternately together and separate — each singing from different tree; then flying together — when together they seemed antagonistic. Finally both were sh together in same tree. Both apparently ♂.

In all we saw 16 nests in ¼ sq. block, — but there were no nests in similar vegetation on other side of road.

= A group or two groups, more probably.

C. jocosus

9.5 mi. NNW Huajuapan de León, Oaxaca

May 7 Km 334 - Pair near tree w two nests. One preening feathers of other bird as they perch side by side. One entered lower nest silently at 10:27. other bird foraging in palo blanco. (Most nests open upward at an angle). This lower nest open horizontally. The other nest in the tree is old and in poor repair - appears to be smaller.

Birds hop, tail is cocked at an angle most of the time. Frequently go to ground & forage, then work up a tree trunk to top of tree. Often hang upside down on trunk. When sitting quietly the tail hangs down & curves under a in a kink. Some light hammering with bill. Birds forage at all levels from ground to tops.

Castex were call heard from another pair some distance off - this call is just about similar to that of brunneopellus and in some ways recalls fluttering flight call of Zanatus also. Is learned, especially for so small a bird.

Bird off nest at 10:31 possibly disturbed by us. Pair moved off to another tree - one sat motionless as other preened itself then the other under wing on breast and about the base of tail — Bird being preened is motionless.

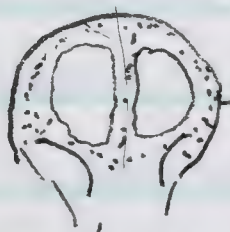
♀ left nest again as we approached - gone Castex were call not flew off. lower nest measured 9 x 6 - had a tunnel 3" leading to inner cavity containing 4 eggs. (Pictures of nest situation & eggs). Nest lined with palm fiber and contour feathers of Pipilo ruti-les, also some fine grass. Outer shell of dried grass & fine stems.

9.5 mi. NNW Huajuapan de Leon, Oaxaca

May 7 Egg nest was 7½" up - other nest in same tree is just a hollow shell - but may have served as a dormitory for the ♂.

plants
- May 7-1 common tree used for nesting
- May 7-2 " " "palo blanco"
- May 7-3 tree shrub - common
- May 7-4 short bush
- May 7-5 low bushy tree - not common
- May 7-6 " " " " "

Nest about 30 yds up slope from egg nest contained no eggs. Pairs of wrens seemed evenly spaced in this study area.

May 8 → #2206  — sparse pillars + clear areas.

Tepenené, 4600 ft., Puebla, Mexico

May 8 Several birds today had bright pink interiors as result of eating fruit of the candelabra cactus — whether this was picked up with insects or whether the fruit is the primary food is a question - but one stomach contained seeds (collected). There were found a good deal of tenia probing in fruit of this cactus. Perhaps the long, thin bill is well suited for this type of feeding.

The iris is a simple brown color - occasionally with a slight shade of orange.

IRIS color

Tefenamé, 4600 ft., Puebla, México

May 8 A nest in construction 15-20 feet up in a large thorny tree — Bonnie watched one wren gather fiber from ~~fruit~~ dried blossom candelabra cactus & carry to the nest - apparently being used as lining. Nos. 2205-2206 were working on nest - but Bonnie only saw ♀ carry material. After she shot the ♀ the ♂ returned to the nest tree, perched on a branch near the nest and called — fast gwa-gwa-gwa, etc. (cactus wren call) with ~~wings~~ wings held out from body. Bonnie collected this bird also.—

Bonnie also saw a cactus wren carry fiber to a hole in a candelabra cactus - about 20 feet up — ~~plunged~~ clung to spines near hole, then entered the hole. Bonnie shot at the bird and missed.

Bonnie saw a wren in river bottom on rocks. I shot a pair and another in bare trees on the slope but found no nests. They are generally rather silent & when disturbed they fly away rapidly

May 9 near Cheetla, 4400 ft., Puebla. — Hunted on a slope of deciduous trees & brush (very few species in leaf) without seeing C. jocosus. Thryothorus pleurostictus was fairly common — much more so than in richer desert vegetation S of Matamoros. Cactus wrens seem to require larger trees - with thorns — there were lacking in this area — as were candelabra cacti.

2 mi. S Zucar de Matamoros, 4350 ft., Puebla

May 9 Photo = Roll 25 #10(?). An area of fairly rich desert vegetation with large candelabra cacti, large agaves, thorny trees in leaf & several species of large broad-leafed tree. All in all similar to vegetation where we hunted yesterday. Wrens were silent for most part (4:30-5:30 P.M.). I collected a lone bird in trees adjacent to a cleared field and then saw a pair fly from a huge candelabra cactus in this field to a stand of original vegetation, where I collected a ♀ with brood-patch. Size of corpora lutea & enlarged oviduct indicate eggs were recently laid. Only calls heard today was gua, gua, gua — "cactus wren call". I saw one bird give this call from top most twig of a large tree (25 feet up). — We seem to have had luck in finding these wrens where the big cacti are present. Of 6 taken today had a ½ inch ring of fat in the interclavicular region. I would judge that the presence of fairly large thorny trees is essential part of habitat for this wren. Even so in good, extensive areas of seemingly suitable habitat these birds are local in occurrence — usually one or two pairs in a small area — then a large stretch of forest without wrens — and many seemingly perfect situations lack these wrens. A few Thryothorus pleurostictus occur in similar places with C. jocosus.

Red-eyed Cowbird ✓

May 30 Zoo in Chapultepec Park, México City.

In a large cage for birds — containing several English sparrows, 2 Orioles, a Pipilo fuscus, one Turdus grayi and 1 ♂ & 3 ♀ cowbirds. Hard to tell whether all these were actually confined.

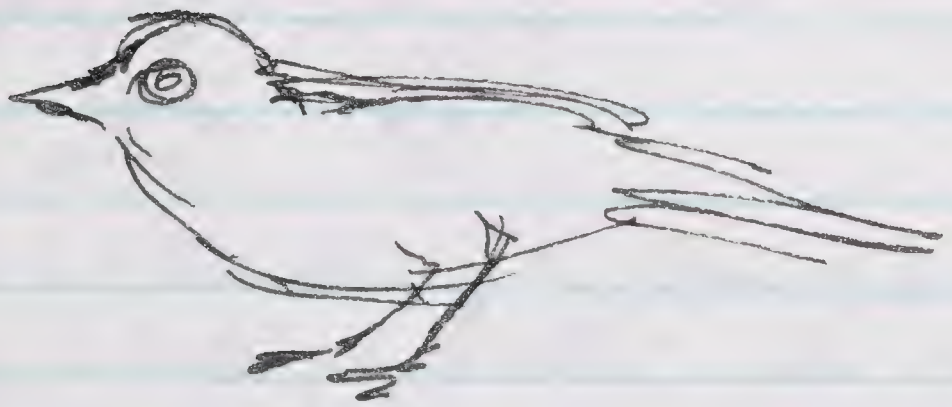
3 ♀ cowbirds were feeding on floor of cage as was ♂, the latter upon seeds from ♀♀ which more or less tended to feed in same general area but often wandering apart or flying up to perches independently. ♂ seemed to be doing less feeding than ♀♀ and always had his neck feathers puffed up, also sometimes the belly feathers. We noted him several times before we observed the following mating behavior.

The ♂ began quivering his wings rapidly — actually flapping the wings out from his body a short distance. At same time the feathers of the hind neck & underparts were puffed out more than before. He walked around a bit, still flapping the wings rapidly, obviously trying to attract the attention of a ♀ which was feeding about 1 foot away from him. After a moment the ♀ stopped feeding and stood quietly watching. The ♂ approached, now flapping more rapidly and when a few inches away from the ♀ he rose from the ground and hovered directly above the ♀ —

Red-eyed Cowbird

May 30 -about 6" from his tail to the ♀ - flapping rapidly with puffed out neck & underpart feathers thusly:

Wings made a rustling noise.



I believe he was looking directly at the ♀ all the time. I could see no change in her stance or behavior. The tail of the ♂ was not fanned out to any degree. He hovered above the ♀ for 5 seconds — "standing" in mid-air in the manner of a hummingbird. He then descended ~~at the side of the ♀ at once mounted and copulated for 3 seconds. The ♀ then flew to top of cage and made several attempts to get out through the wire. The ♂ flew up to a perch.~~

Red-eyed Cowbird

May 30 to a point 7" in front of the ♀ and with tail partially spread wings a neck a underparts puffed he took 3 very short hops directly toward the ♀, looking directly at her all the while.

The last description of this phase of his behavior is to say he looked "very sinister" — like a man in a large cloak with arms spread. I didn't notice change in ♀ — possibly she was more ridged than before but my attention was on the ♂. He then mounted & copulated for about 3 seconds. The ♀ then flew to top of cage (8 feet up) and made several attempts to escape thru wire, while ♂ flew to a perch.

About 3 minutes later the ♂ was back on floor of cage, puffed up ~~and~~ ~~making~~ ~~like~~ flapping his wings — but not so excitedly as before. He continued flapping for about 1 minute; Again trying to get the attention of a

May 30 ♀ which was feeding 2 feet away. ~~He seemed~~ He approached to within a foot of this ♀, his fluffing increasing in speed and the becoming more puffed up. Suddenly the ♀ stopped feeding and made a quick dash to about 6" in front of the ♂ where she stood quietly. He at once rose in the air and hovered exactly as before. He then descended as before and made 3 hops forward - the whole performance seemingly exactly as before. Before he could mount the ♀ walked away and started feeding. He relaxed - his feathers no longer fluffed out -. After standing for 5-10 seconds he flew to a feed tray and fed for 5 minutes or more - paying no further attention to the ♀♀ which were now feeding on the floor below.
End of observations.

SELANDER, R.K.

JARBIDGE MTS., ELKO CO., NEVADA
JUNE 20 - JUNE 27, 1955

CATALOGUE NOS. *2900 - 2957

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*CAT. NOS. 2494 - 2899 not accounted for

SELANDER, R.K.

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K. Selander,
1955

2 mi. NE Jarbidge Peak, 9000ft., Elko Co., Nevada.

June 21, 1955

2900	♀	Carpodacus cassinii	fat.	ovum 10mm.	28.7gm.
2901	♂	Sialia currucoides	Testi 10mm.		28.4gm.
2902	♂	" "	Testes 12mm.		28.0gm.
2903	♂	Parus gambeli	Testis 8mm.		11.6gm.
2904	♂	" "	Testis 6mm,		12.3gm.
2905	♀	" "	Brood-patch		11.5gm.
2906	♂	" "	Testis 6mm.		11.5gm.

2.

2 mi. June 22, 1955

2907	♀	Peromyscus maniculatus		157 ~~157~~ - 65 ~~65~~ - 20 - 18	26.2gms.
2908	♂	Passerella iliaca	8500ft.	Testis 10mm.	29.0
2909	♀	" "	"	Brood patch corpora lutea	28.0
2910	♂	Empidonax difficilis	Testis 7mm.	9000ft.	12.3
2911	♀	Vireo gilvus	Brood patch	ova to 2mm. 9000ft.	11.7
2912	♂	Junco caniceps	Testis 8mm.	9000ft.	18.5
2913	♂	" "	Testis apx. 8mm.	"	20.1
2914	♂	Vireo gilvus	Testis 7mm.	8500ft	10.4
2915	♀	Junco caniceps	mod. fat. Brood-patch	ova to 2mm. 8500ft.	18.9
2916	♀	Sialia currucoides	mod. fat. Brood patch	corpora lutea present 8500ft.	———

June 23, 1955 - all 8500ft.

2917	♂	Certhia familiaris	Testis 5mm.	8.0gms.
2918	♂	Dendroica auduboni	Testis 9mm.	12.6gms.
2919	♂	Empidonax wrightii	Testis 6mm.	12.1gms.
2920	♀	Vireo gilvus	ova to 5mm. + 1 corpus luteus	11.1gms.

R. K. Selander,
1955

2 mi. NE Jarbidge Peak, 8500-9000 ft., Elko Co., Nevada

June 23, 1955

2921	♀	Junco caniceps	Brood-patch	8500 ft.	21.5
2922	♂	Carpodacus cassini	Testis 9 mm.	8500 ft.	27.9
2923	♂	Sitta canadensis	Testis 5 mm.	8500 ft.	9.4
2924	♂	Dendrocopos villosus	Brood-patch Testis 6 mm.	8500 ft	79.2
2925	♀	" "	Brood patch - Mate of 2924	8500 ft.	66.1
2926	♂	Vireo gilvus	Testis 7 mm.	8500 ft.	10.4

June 24, 1955

2927	♂	Zonotrichia leucophrys	Testis 11 mm.		28.3
2928	♂	"	Testis 11 mm.		27.6
2929	♂	Piranga ludoviciana	Testis 10 mm.		26.6
2930	♂	Hylocichla guttata	Testis 11 mm.		30.3
2931	♂	Spinus pinus	Testis 7 mm.		11.1
2932	♂	Junco caniceps	Testis 7 mm.		18.8
2933	♂	Dendroica auduboni	Testis 8 mm.		12.8
2934	♀	Euetamias amoenus	4 4 mm. embryos	194-76-31-20	51.8

June 25

2935	♂	Vermivora celata	Testis 7 mm. No fat.		9.2
2936	♂	Zonotrichia leucophrys	Testis 12 mm.		28.5
2937	♂	Junco caniceps x mearnsi	Testis 10 mm.		20.2
2938	♂	Empidonax wrightii	Testis 6 mm. No fat.		11.9
2939	♂	Spizella passerina	No fat Testis 7 mm.		12.4
2940	♀	Passerella iliaca	Some fat ovato 2 mm. Brood-patch		25.8
2941	♀	Regulus calendula	Brood patch - ovato 1 mm. Slightly fat		6.4
2942	♂	Parus gambeli	Testis 8 mm.		11.9
2943	♂	Vireo gilvus	Testis 6 mm. No fat		11.0
2944	♀	Turdus migratorius	Egg in oviduct - ovum 13 mm + ovum 10 mm + 1 corpus luteum Brood patch - Slightly fat		91.7

K. Selander,
1955

2mi. NE Jarbidge Peak, 8500ft., Elko Co., Nevada

June 25

2945	♂	Turdus migratorius	Testes 12mm.		79.9

Jack Creek Basin, 9500ft., Jarbidge Mts., Elko Co., Nevada

June 26

2946	♀	Carpodacus cassinii	Some fat ova to 4mm.	Partial brood patch	24.8

2mi. NE Jarbidge Peak, 8500ft., Elko Co., Nevada

June 27

2947	♂	Passerella iliaca	Testes 7mm.		27.1 ~~24.8~~
2948	♂	Junco caniceps	Testes 8mm.		19.1 ~~21~~
2949	♀	" "	Brood patch	ova to 1.5mm. Some fat.	17.7
2950	♂	Troglodytes aëdon	Testes 7mm.		9.5
2951	♀	Sialia currucoides	Brood patch	Mod. fat. ova to 1.5mm.	29.6
2952	♀	Vesper sparrow	Some fat (Caught in trap)	Brood patch ova to 2mm.	26.9
1 Kel. 2953	♀	Sitta canadensis	ovary		9.4
2954	♂	" "	Testes 3mm.		8.7
2955	♀	Red-~~backed~~naped Sapsucker	Brood patch - Fat	ova to 1.5mm.	52.7
2956	♀	Microtus longicaudus	No embryos 167 - 50 - 20 - 14		38.6
2957	♂	Red-naped Sapsucker	Fat	Brood patch Testes 6mm.	54.4

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J. K. Selander,
1955

Journal

Jarbidge Mts., Elko Co., Nevada
June 20, 1955

Flew with Dr. Miller from Oakland on United Airline flight #328 to Elko, Nevada, leaving Oakland at 4:40. Picked up MVZ truck at Fish and Game office and drove north on road from Wells, stopping at side of road for the night.

June 21 Drove to a point a head of Dave Creek, 2 mi. NE Jarbidge Peak, 9000ft., Elko Co., Nevada and made camp. At 2:00 P.M. I hunted up (south) from camp to ridge separating head of Dave Creek from East Fork of Jarbidge River. On ridge vegetation is nearly pure pine (P. flexilis ?), somewhat stunted and with no understory to speak of; many dead pines which appear not to have been burned. Some logging of pine on the ridge. Ridge is nearly 10,000 ft. elevation. Birds extremely rare on ridge. Noted about 15 Clark Nutcrackers moving in flocks; a few Mt. chickadees (4 collected, one having a brood-patch; Wood pewee; Ruby-crowned Kinglet — probably fairly numerous and singing all afternoon; Mt. Bluebird — about 7 seen in 3 hours of hunting and 2 collected; Violet-green swallow — flying low over pines at top of ridge — about 7 seen. There are some woodpecker holes in dead pines at the top of the ridge, around which swallows seemed to be flying. Also saw 6 or so Cassin Purple Finch, collecting a female about to lay. At 3:15 p.m. a lone nighthawk (Chordeiles minor) flew down Dave Creek Canyon

Journal

June 21

2 mi. NE Jarlidge Peak, 9000 ft., Elko Co., Nevada

toward camp. At 5:00 p.m. a flock of 6 (possibly more) flew up Dane Creek over camp. One chirred & boomed. Heard Hermit Thrush start singing at about 5:00 p.m. down (north) from camp. A Robin (Turdus migratorius) started singing at about 6:30 near camp and is still going strong at 9:00. Saw a young deer (about ½ grown) about ½ miles down from camp and noted foot prints at several points both up & down from camp. Down from camp the timber is thicker with about equal mixture of pine and Alpine fir. Also many aspen, especially in canyon near the small stream (about 2-3 feet wide). Aspen is short.

Birds not much more common down from camp than on ridge, but doubtless hunting will be better early in the morning.

Across Dane Creek Canyon on the western facing slope there are several large Mt. mahogony trees and some extensive Talus slides slopes of red rock. Most of slope at level of camp is covered with pine, a rather open stand. About ½ mile below camp the talus slides begin. Set 12 traps along creek near tent.

June 22

Hunted down the canyon along Dane Creek for ½ - ¾ mile between 6:00 and 10:00 a.m. (Caught one Peromyscus maniculatus at edge of stream). Collected on Empidonax difficilis about ¼ miles below camp - only one seen. Juncos common in canyon. About ¾ mile (by road = ½ mile airline) below camp there is a meadow broken by patches of

R. K. Selander, 1955

Journal

2 mi. NE Jarbidge Peak, 8500-9000 ft., Elko Co., Nevada

aspen and fir. Some clumps of willow here and there but not abundantly. Meadow area is bordered by a stand of short, dense aspens. Several slopes of grass and small sage in the area, which is just below the belt of pine-fir timber. Aspen-fir groves extend for a mile or more in several draws running north from the meadow area; probably extensive meadow land at a lower elevation where land is flat. In the willows Passerella iliaca was fairly common; also white-crowned sparrows; one red-naped sapsucker; ruby-crowned kinglets (these also in aspen-fir - generally distributed and no more common than at camp). Heard black-capped chickadee*; Sitta canadensis; Empidonax wrightii. Vireo gilvus abundant in aspens. Hermit thrushes more numerous than in Done Creek Canyon near camp; several robins present; heard red-shafted flicker. Took a shot at an adult goshawk perched in top of large aspen; this bird was calling excitedly and I suspect it may have had a nest nearby. Saw a red-tailed hawk high over the meadow.

Returned to camp at 10:00 and spent rest of day skinning birds. At 7:00 we drove down to meadow area to hunt for nighthawks and owls — saw none and no response from Dr. Miller's owl imitations.

June 23 Colder this morning than yesterday. At 6:00 I crossed over west slope of Done Creek and hunted down a small canyon or draw which runs parallel with Dane Creek

* probably misidentification of Parus gambeli - see June 25

Journal

2 mi. NE Jarbidge Peak, 8500-9000 ft., Elko Co., Nevada

June 23 Canyon. There is a small stream in it – about the size of Dave Creek near our camp. Vegetation similar to that in Dave Creek Canyon – possibly more pine and less fir. Took a creeper just after descending into the draw. Saw a gold-mantled ground squirrel in scattered rocks at bottom of draw. Cassin purple finches singing all along slope of draw, and Clark nutcrackers flying along ridge. One chipmunk noted at base of small clumps of firs.

Hunted through meadow over same area as I hunted yesterday. Ran on to Parus gambeli? ~~black capped chickadees~~ three times (in pairs) but unable to collect any. Took a pair of Hairy Woodpeckers in stand of aspen bordering meadow; they were calling excitedly and appeared to be nesting since both have brood patches. Found a nest of a white-crowned sparrow on ground wedged in against the base of a willow trunk – 5 eggs showing about 3 days incubation. Noted 2 separate pairs of Sitta canadensis and collected one bird. These were moving along edge of meadow area in aspens & firs. Siskins flew over several times – always heading down the slope (= north). Several Empidonax wrightii were present in aspens; one collected. Two red-shafted flickers seen flying over grassy slopes from meadow area to stand of timber to the east. Audubon warblers in aspen & fir just up slope from meadow – one collected and 3-4 more seen. Elevation at meadow is about 8500 ft.

2 mi. NE Jarbidge Peak, 8500-9000 ft., Elko Co., Nevada

June 23 At about 7:15 a nighthawk flew over camp, heading down Dave Creek Canyon; 15 minutes or so later we heard another call. A flock of at least 15 crossbills flew over camp, heading down, at about the same time.

Clouded up in late afternoon and sky overcast between 6:00 and now (9:00); possibly it will rain tonight. Dr. Miller says air temperature was 8° C at about 8:15 p.m.

June 24 Hunted with Dr. Miller down canyon just west of Dave Creek Canyon to meadow area. Very cold this morning; water frozen in bucket; hard, cold wind blowing up the canyon. Bird generally silent and inactive until around 8:30 a.m. Took a Piranga ludoviciana in a pine at about 6:15. It was all fluffed up, appearing much larger than usual. A few Citellus lateralis and Eutamias amoenus active near at 6:30. Heard chipping sparrows singing at bottom of canyon; also a Vesper sparrow in same area, where sage-covered hillside meets aspen + fir stand. In the meadow area Dr. Miller took a Tolmie Warbler and 3 fox sparrows; also 3 golden-crowned Kinglets and an adult female Accipiter striatus, probably the same individual I saw day before yesterday. I hunted down (north) through the meadow area. About ½ mile north of the road the meadow gives

2 mi. NE Jarbidge Peak, 8500-9000 ft., Elko Co., Nevada

June 24 out as the flat land ends. Another ¼-½ mile north there is an extensive patch of aspen, and I believe more meadow. I hunted over the ridge between Dave Creek and the draw which supplies the meadow area. Dave Creek is about 4-5 feet wide and flows at the bottom of a steep-sided draw; no riparian trees or bushes and no meadow: Sage on west-facing slope and dense Garrya on east-facing; above this stunted aspens and pines, the latter more up on the ridge. Took two Zonotrichia leucophrys in Garrya — an unusually dry situation for this species I would guess. Saw little else in Dave Creek Canyon, except a Hermit Thrush.

Crossed over ridge again and hunted in meadow for about ½ hour. Took a Siskin and lost another I shot. Returned to camp, following the road. Collected an Audubon Warbler at edge of meadow area, and a Eutamias amoenus on a log on the hillside halfway between the meadow and camp. Did not hear ~~Black-capped~~ chickadees today, which is unusual since I ran on to them three times yesterday.

After dinner we moved camp down to the meadow. I set ± ~~35~~ 42 traps in the meadow. No nighthawks heard tonight.

R. K. Selander,
1955

Journal

2 mi. NE Jarbidge Peak, 8500 - 9000 ft., Elko Co., Nevada

June 25 Hunted through meadow area between 6:30 and 9:00. Took a Parus gambeli in an aspen near camp. I now believe that this is the species I observed on previous days in this area, rather than P. atricapillus. Saw a Red-~~bracted~~ naped Sapsucker in dense willow-aspen patch near the same spot I had seen one previously. Took one Fox Sparrow and saw no others. I judge that we have just about cleaned them out. Sky overcast with clouds most of the morning and birds rather silent and inactive. E Nothing is 42 traps set in meadow last night).

Near camp I shot a Lanius ludovicianus x mearnsi and collected a Vermivora celata in the top of an aspen. Spizella passerina is very common in the sage and especially along the sage - aspen border. Heard a Tolmie Warbler singing in a willow patch but it was extremely elusive and I couldn't collect it.

At about 9:30 I walked west from camp and followed a stream down about ½ mile from (= north of) camp, where I expected to find more meadow, but found nothing but a dense stand of short aspen. Apparently our camp is located adjacent to the only sizable patch of meadow in the area. Noted two flickers in aspen about ¼ mile below camp. Hunted for 10-15 minutes through a stand of Mt. Mahogany north of camp, finding a few juncos (ranging up from aspen in gully nearby), and a Wright Flycatcher. Returned to camp at 12:00.

R. K. Selander,
1955

Journal

2 mi. NE Jarbidge Peak, 8500 ft., Elko Co., Nevada

June 25 Some pattering of rain in late afternoon, but it soon cleared up and at sunset the sky is mostly free of clouds. About 3:30 a Goshawk flew past camp, moving through the trees about 10 ft. above the ground. Possibly this is the mate of the one taken by Dr. Miller.

June 26 Left camp at 6:10 and hiked west to Jack Creek Canyon, descending the steep west facing slope to the road which runs up the canyon along the stream. Ascended to Jack Creek Basin (9500 ft.) working along lower edge of talus slopes on west facing side of canyon in hopes of finding Rosy Finches. Heard many Rock wrens and saw 5 or so on talus slopes but found no signs of Rosy Finches or Pikas, although I hunted along talus for 3 hours. Saw two Violet-green Swallows in Jack Creek Basin; also noted the following in sparse pine stand below talus slopes: Hairy Woodpecker (1); Red-breasted Nuthatch (2); Cassin's Purple Finch (10+); Clark Nutcracker (10+); Ruby-Crowned Kinglet (10+ — not as common as in thicker, mixed fir-pine forest at lower elevations, however. Saw two Dippers along Jack Creek; Dr. Miller shot one but it fell into the water and we were unable to obtain it. — Returned to camp at 3:30. At about 6 I set out 45 traps in ~~[illegible]~~

2 mi. NE Jarbidge Peak, 8500 ft., Elko Co., Nevada

June 26 Sage-brush adjacent to meadow. Rain fell lightly for about ½ hour in late afternoon but sky had completely cleared by 9:00 P.M.

June 27 Caught one Microtus longicaudus in sage brush about 30 yards from aspen grove. Also caught a Vesper Sparrow and a subadult Peromyscus maniculatus. Did not prepare the Peromyscus. Left traps out through the day but caught nothing more. Hunted in morning through meadow area. Wounded a Goshawk which we flushed three times later in the day — but failed to get it for a specimen. Took a lone Troglodytes aëdon which was singing in a small stand of aspen near the northern (lower) limit of the meadow area. Collected a 70 x Sparrow singing about 30 feet up in a fir tree near a clump of willows. This was probably the last individual of this species present in the area. Saw two Piranga ludoviciana in aspens. Noted no new birds today other than the Troglodytes aëdon. — Flushed a Red-tailed Hawk from aspen-fir stand near camp.